HUNTERS POINT SHIPYARD
RESTORATION ADVISORY BOARD (RAB) - MEETING AGENDA
WEDNESDAY, 23 FEBRUARY 2005

Day/Date:
Wednesday – 23 February 2005

Time:
6:00 p.m. to 8:00 p.m.

Location: Dago Mary's Restaurant
Hunters Point Shipyard
Building 916
San Francisco, CA 94124

Facilitator: **Marsha Pendergrass**

Time	Topic	Leader
6:00 p.m. – 6:05 p.m.	Welcome/Introductions/Agenda Review	Marsha Pendergrass *Facilitator*
6:05 p.m. – 6:20 p.m.	Approval of Meeting Minutes from the January 2005 RAB Meeting • Action Items Review	Marsha Pendergrass
6:20 p.m. – 6:30 p.m.	Navy Announcements	Patrick Brooks *Navy Lead Remedial Project Manager and Interim BRAC Environmental Coordinator*
	Community Co-chair Report/Other Announcements	Maurice Campbell *Community Co-chair*
6:30 p.m. – 7:00 p.m.	IR-07/18 Soil Gas Work Plan Update	Ryan Ahlersmeyer *Navy Remedial Project Manager*
7:00 p.m. – 7:10 p.m.	**BREAK**	
7:10 p.m. – 7:40 p.m.	Bias in Traditional Risk Assessment Methodology	Raymond Tompkins *RAB Member*
7:40 p.m. – 7:55 p.m.	Subcommittee Reports	Subcommittee Leaders
7:55 p.m. – 8:00 p.m.	Community Comment Period	Marsha Pendergrass
8:00p.m.	Adjournment	Marsha Pendergrass

HPS web site: http://www.efdsw.navfac.navy.mil/Environmental/HuntersPoint.htm

RAB Navy Contact: Mr. Patrick Brooks (619) 532-0930 or (415) 308-1458
RAB Community Contact Maurice Campbell (415) 468-8964

HUNTERS POINT SHIPYARD
RESTORATION ADVISORY BOARD MEETING MINUTES
27 JANUARY 2005

These minutes summarize the discussions and presentations from the Restoration Advisory Board (RAB) meeting held from 6:20 p.m. to 8:20 p.m. on Thursday, 27 January 2005, at Building 101 at Hunters Point Shipyard (HPS). A verbatim transcript was also prepared for the meeting and is available in the Information Repository for HPS and on the Internet at www.efdsw.navfac.navy.mil/Environmental/HuntersPoint.htm. The list of agenda topics is provided below. Attachment A provides a list of attendees. Attachment B includes action items that were requested or committed to by RAB members during the meeting.

AGENDA TOPICS:

(1) Welcome/Introductions/Agenda Review
(2) Approval of Meeting Minutes from 21 October and 9 December 2004 RAB Meetings
(3) Navy Announcements
(4) Community Co-chair Report/Other Announcements
(5) Open Space Plan and Community Facility Parcels
(6) RAB Meeting Date and Location Discussion
(7) Subcommittee Reports
(8) Community Comment Period
(9) Adjournment

MEETING HANDOUTS:

- Agenda for 27 January 2005 RAB
- Meeting Minutes from 21 October 2004 RAB Meeting
  - Includes: Action Items from 21 October 2004 RAB Meeting; and
  - Table 1, RAB Roll-Call Sheet
- Meeting Minutes from 9 December 2004 RAB Meeting
  - Includes: Action Items from 9 December 2004 RAB Meeting; and
  - Table 1, RAB Roll-Call Sheet
- PowerPoint Presentation, Open Space Plan and Community Facility Parcels, City of San Francisco, 27 January 2005
- Handout, HPS, DDA Closing Condition 11(b), Location and Range of Uses for Community Facilities Parcels
- Monthly Progress Report, November and December 2004
- Meeting Minutes, HPS RAB, Technical Review Subcommittee, 19 January 2005
- Meeting Minutes, HPS RAB, Lowman Radiological and Risk Assessment Subcommittee, 26 January 2005
- Handout, Contacts for Health and Safety Issues during Parcel A Redevelopment, Department of Public Health
- Handout, HPS, Comparison of Open Space Reuse at Parcel B Figure
- Handout, HPS, Lateral Extent of Interim Cap and Burn Area Figure
- Agency for Toxic Substances and Disease Registry (ATSDR) Health Consultation Summary, HPS Parcel E Landfill Fire
- ATSDR Landfill Gas Primer
- Map, Comparison of Open Space Reuse at Parcel B

- Map, Lateral Extent of Interim Cap and Burn Area (Final Removal Action Landfill Cap Closeout Report)

Welcome / Introductions

The start of the meeting was delayed to allow time for additional RAB members to arrive. Marsha Pendergrass, facilitator, called the meeting to order at 6:20 p.m. All in attendance introduced themselves. Ms. Pendergrass said that the number of RAB members attending did not meet the minimum requirements for a quorum. As a result, the meeting began with the agenda items that did not require a quorum.

Navy and Community Co-Chair Reports/Other Announcements

Keith Forman, RAB co-chair, said a community notification plan (CNP) announcement had been sent by e-mail to members of the RAB. Mr. Forman provided a summary of the CNP, which was prepared because a barge that had capsized in San Francisco Bay is currently docked at HPS. The Coast Guard has inspected the barge, and no releases have been identified. The barge should be towed back to its owners in the following week.

RAB Meeting Date and Location Discussion

Mr. Forman noted that he had requested input at the December 2004 RAB on the RAB meeting location and day of the week. Mr. Forman said that it had been difficult to find a stable meeting location that met the needs of the RAB members. Mr. Forman therefore proposed changing the RAB meeting to the fourth Wednesday of every month, which would allow the meeting to be held at Dago Mary's. Dago Mary's provides a safe and stable meeting location. Ms. Pendergrass noted that a quorum was now present at the meeting. Mr. Forman moved to change the night of the RAB meetings to Wednesday and to hold the meetings at Dago Mary's.

Sam Ripley, RAB member, said that he would be unable to attend the meetings on Wednesday night and asked if the meetings could be held on Tuesday nights. Mr. Forman said that the Navy was not able to meet on Tuesday nights. Charles L. Dacus, Sr., RAB member, asked about other locations that were available. Carolyn Hunter, SulTech, said that other locations, including Southeast Community College, Bayview Opera House, and the police station, were not available on a consistent basis. Ms. Hunter added the Young Community Developers (YCD) had offered warehouse space to use for the RAB meetings. Chris Hanif, RAB member, said that the warehouse is currently used for a youth program, but noted that it may not be an optimal space for a regular monthly meeting. J.R. Manuel, RAB member, withdrew his previous objections to the change of meeting date.

Ms. Pendergrass suggested that the RAB vote on holding the meeting at Dago Mary's for the next 11 months and then an alternative location could be evaluated for the following year. Mr. Forman agreed to amend his motion to include this suggestion.

Lea Loizos, RAB member, asked if other RAB members would be unable to attend the meetings on Wednesday night. Ahimsa Sumchai, RAB member, said that she would not be able to attend, due to the fact that the Radiological Subcommittee meetings are currently held from 3 p.m. to 5 p.m. on the fourth Wednesday of the month. The Radiological Subcommittee meetings will have to be rescheduled if the RAB meetings are going to take place on the fourth Wednesday of the month. Dr. Sumchai said that the YCD warehouse provided a good location that facilitated a round table discussion, although the lack of outside lighting was a potential safety issue.

Raymond Tompkins, RAB member, asked if members would be exempted from the membership attendance bylaws if they were unable to attend a meeting based on the revised dates. Melita Rines, RAB member, responded that this exemption would be handled on an individual basis.

Mr. Forman repeated his previous motion, which passed.

The next RAB meeting will be held from 6:00 to 8:00 p.m., Wednesday evening, 23 February 2005, at Dago Mary's Restaurant, Building #916 on the shipyard.

Agenda and Meeting Minutes Review

Ms. Pendergrass said that the minimum number of members needed for a quorum had not been present at the 9 December 2004 RAB meeting. As a result, both the 21 October 2004 and the 9 December 2004 minutes needed to be approved by the RAB. Mr. Manuel moved to approve the minutes, and the minutes were approved.

Ms. Pendergrass reviewed the action items in the December minutes and asked for the status of each. The first item, regarding the AMC cranes at Dry Dock 4, was amended. Mr. Forman said that he had contacted Dave Terzian, site caretaker, to notify him that the work plan would be amended in regards to removal of the largest crane. The removal would likely occur in the next few months. The second item, regarding a poster board showing the extent of the fire, was completed. Mr. Forman noted that a handout of this figure had been brought to the meeting.

The third action item, information on methane production in aging landfills, was completed. Mr. Forman said that Dr. Sumchai had provided the Navy with two reports on methane production. These reports also were provided as handouts to the RAB members. Dr. Sumchai added that she had provided these reports to address concerns about the amount of methane gas produced at the landfill and its relation to the 2000 fire. Dr. Sumchai encouraged the RAB members to read the landfill gas primer. Dr. Sumchai said that the interim cap on the landfill forced the methane gas out of the sides of the cap, increasing concentrations in the northern extent of the site. Mr. Brooks agreed, but noted that the fire would consume methane gas, not encourage its production. Dr. Sumchai said that cap decreased the oxygen levels, creating an anaerobic environment that facilitates production of methane. The temperature increase would also facilitate gas production. Dr. Sumchai suggested that these issues should be discussed at a subcommittee meeting. Dr. Sumchai encouraged RAB members to read page 2 of the ATSDR health consultation.

The fourth action item, translation of documents into Samoan, was carried over. Ms. Hunter is working with Mr. Ripley to identify appropriate documents for translation for the Samoan community. The fifth action item, to include a summary of risk levels from the power plant, was completed. A portion of the Final Historical Radiological Assessment was included in Section 3.0 of the monthly progress report.

The first new action item, to invite Dr. Richard Luthy, Stanford University, to present at a technical subcommittee meeting, was completed. Dr. Luthy agreed to present his findings, which involved a treatability study that used carbon mixed with sediment to remediate polychlorinated biphenyls, to the technical subcommittee as well as the RAB once his project is further along.

Open Space Plan and Community Facility Parcels

Mr. Forman introduced Michael Cohen from the City of San Francisco Mayor's Office of Economic Development to present on the open-space plan and community facility parcels. Mr. Forman noted that this presentation responds to a RAB request to Amy Brownell, San Francisco Department of Public Health, to provide information on these plans for Parcels A and B. Mr. Cohen said that the presentation would consist of two parts. Patrick Vaucheret, a project architect, would present the open space plan for the first phase of development at Parcels A and B. Mr. Cohen would speak about the community benefits, with a focus on the 6 acres in the community facility parcels.

Mr. Cohen said that the San Francisco Redevelopment Agency approved a disposition and development agreement in December 2003 for the first phase of development of HPS. This agreement includes about 95 acres in Parcels A and B. In the past few months, pre-construction was conducted, and construction is expected to begin on Parcel A around March 1, 2005. All the necessary approvals have been obtained.

Mr. Cohen noted that the City of San Francisco has been working with the Citizens Advisory Committee (CAC) for more than 10 years on this first phase of development to ensure that the benefits of development also accrued to the Hunters Point community.

Mr. Cohen said that 1,600 units of new housing were being created; of which 32 to 40 percent will be affordable based on Bayview-Hunters Point income levels. The developer is required to fund a homebuyer assistance program. In addition, 35 acres of new parks and open space will be created. The parks will be privately funded for both the creation and continued maintenance of them. There are a number of jobs and economic development programs, including a local hiring program, contractor assistance program for insurance and bonding, and small business assistance programs.

Mr. Cohen said that 30 percent of market-rate lots for development are earmarked for community builders and developers. Through a public-private partnership, 60 cents of every dollar of the proceeds will go into a community benefit fund. This fund is projected to reach $30 million to $40 million for the community in the first phase of development. The city is working with the CAC to develop a Community Development Corporation to help guide the use of this money.

The Community Development Corporation will also be provided 6 acres for community facilities parcels. Mr. Cohen noted that there has been some frustration among the community because this land is located in Parcel B, which will be developed much later than Parcel A. Mr. Cohen said that 6 acres in Parcel B were planned from 1997 through 2002 for the Bayview Hunters Point Center for Arts and Technology (BayCat). However, this plan did not work out. As a result, this land is now being made available to the Community Development Corporation. In addition, 1 acre in Parcel A is also planned as a communities facility parcel. Mr. Cohen noted that the location of the 6 acres on Parcel B has not yet been identified. The land designated as the community facilities parcels on Parcel B maps is shown as a placeholder only.

Mr. Cohen said that the city ensured that the lots set aside for community developers were of the same quality as the lots provided for Lennar. The lots have the same mix of rental housing versus ownership, quality of view, and size of housing units. This same exercise will be undertaken for Parcel B once this parcel moves closer to development.

Mr. Cohen noted that several individuals had questioned whether the 6 acres could be moved to Parcel D if that parcel is ready for development before Parcel B. The city decided that the 6 acres for Parcel B would remain on that parcel. If Parcel D if ready for development before Parcel B, then an additional 6 acres for community facilities will be planned for Parcel D.

Mr. Cohen introduced Patrick Vaucheret, SMWM, to discuss the open space plan. Mr. Vaucheret is a senior urban designer with SMWM, a planning consultant for Lennar. Mr. Vaucheret said that the open space plan will address both Parcels A and B, although the plan for Parcel A is more developed at this time. Mr. Vaucheret noted that it was important to consider the open space plan as a part of the larger area.

Mr. Vaucheret said that he anticipates an open space along the waterfront in Parcel B. The promenade along the waterfront may reach to Parcel C. The hill on Parcel A provides views of San Francisco Bay. The streets will connect back to the community, linking the various areas.

Mr. Vaucheret said that there are three categories in the open space plan: landscape types, linkages, and elements. The design team worked with the CAC to identify the categories that were important for this open space. Mr. Vaucheret anticipates that more of these items will be added to the plan in the future.

The bluff represents most of the open space on Parcel A. The bluff will accommodate a ridge trail around Hilltop Park. Two parks, Waterfront Park and Hilltop Park, are planned. The plazas are designed for gathering and will have flexible use, such as flower gardens, art installations, and tot lots. A small play field is planned for each subarea of the open space plan. The play fields could be a small playground or basketball court. Two types of gardens are planned. Ornamental gardens provide semi-private space in the development. These gardens will be maintained by the homeowners association and non-profit groups. Community gardens are public accessible areas located throughout the neighborhood. The yards provide a transition between buildings and public areas.

A major linkage is the bluff trail around the point. The promenade is a paved path along the waterfront in Parcel B. Overlooks and terraces provide viewpoints for people to gather and enjoy the view. A number of stairways will connect lower areas to the hill areas. The facilities will include small structures, such as market places and performance areas.

Another important feature is the cultural, historical, and recreational program (CHRP) features that will present the culture and history of the shipyard. The CHRP features may include a timeline that depicts stories or markers that show the historical shoreline.

Mr. Vaucheret presented a figure showing the overall concept for Parcel A. Mr. Vaucheret noted that a number of places that will enrich the development would be included throughout. Mr. Vaucheret presented a figure that shows the long-term vision for Parcel B, which will include linkages to surrounding areas.

Mr. Vaucheret provided additional details on Parcel A. Parcel A will include an assemblage of open space and buildings and vertical development for a consistent approach. Hilltop Park is designed as a linear space that connects the park with a tennis court, smaller gardens, passive green areas, tot lots, and plazas for gathering. Hilltop Park provides viewing opportunities and will include trees planted to create shelter from the wind. Mr. Vaucheret presented a drawing of another smaller park on Jerrold Avenue.

Mr. Vaucheret discussed the streetscape designs. The street designs and tree types tie back to the City of San Francisco. Residents will have some control over the street designs. The street furniture includes street lighting, benches, and bicycle racks.

Mr. Vaucheret opened the floor to questions. Dr. Sumchai pointed out inconsistencies in the city's presentation to the RAB after the transfer of Parcel A has already been completed. Dr. Sumchai said that she had distributed to the RAB copies of a complaint to the Enforcement Division of the Bureau of Political Practice Commission. Other complaints have been filed with the FBI, the Ethics Commission, and the City Attorney's Office regarding legal and conflict-of-interest violations in the development projects at HPS. Dr. Sumchai noted that the land set aside as a community parcel on Parcel B is IR07 and IR18. The Navy used these lands to support submarine maintenance and possible decontamination of ships from Operation Crossroads. Dr. Sumchai said that the map distributed by Mr. Cohen shows Class I, II, and III radiologically contaminated areas. Dr. Sumchai said that nine radiologically contaminated buildings were not included in the final environmental impact report for Phase I development at HPS.

Dr. Sumchai asked Mr. Cohen to address the quality of land in IR07 and IR18 as compared with Parcel A. Mr. Cohen responded that the 4.8 acres shown on the Parcel B are only a placeholder.

The location of the community facilities parcels on Parcel B has not yet been determined. Several years of community meeting and discussion will occur for the location and use of the community facilities parcels on Parcel B.

Mr. Cohen said that he understood the purpose of the RAB was to provide community input to the Navy on cleanup issues. The CAC has existed for 14 years to provide community input on development issues at the shipyard. Mr. Cohen noted that the city has encouraged crossover of members of the RAB and CAC and noted that Maurice Campbell, RAB co-chair, is also a member of the CAC.

Mr. Manuel said that he was appalled by the planned use of the shipyard. Mr. Manuel said that many families had been waiting years to enjoy the benefits of this land for themselves and their offspring. Mr. Manuel said that the Project Area Committee (PAC) and the CAC have been operating illegally as a representative body of the RAB. Senator Burton's office has investigated this matter and determined that it was operating illegally. Mr. Manuel said that clandestine meetings occurred. Mr. Manuel recommended that the city should not rely on input from organizations that do not have legal authority to represent the community. Mr. Manuel further said that legal injunctions may be used and that open meetings need to be held.

Dr. Sumchai said that the city had not dealt with health and safety issues at the shipyard and had placed the local community at risk.

Mr. Tompkins concurred with the statements of Mr. Manuel and Dr. Sumchai. Mr. Tompkins said that one concern arises because land usage and the development plans do not coincide. For example, one planned benefit is edible vegetation. The land usage for Parcel B has not yet been identified.

Mr. Cohen responded that the plans for Parcel B are not developed yet. Many of the issues that related to streetscapes and tree types also involve development of Parcel A. The specific details of Parcel B will not be established until the city assumes ownership of the property. Regulatory concurrence must be achieved that the property is safe for its intended use.

Mr. Tompkins said that no one has addressed the risk to a subset of the population regarding metals at Parcel A. Mr. Tompkins asked the city to address the issue of dust control during excavation at Parcel A.

Mr. Cohen responded that the city went through the Health Commission process to identify a series of controls for construction at the site. The environmental subcommittee of the CAC recommended that the city adopt specific ordnance for construction at HPS. This ordnance requires a dust control plan. Mr. Tompkins requested the city to specifically consider the use of a tent with a negative atmosphere for dust control. Mr. Tompkins said sprinklers were not an acceptable solution for dust control.

Ms. Lutton said that the Civil Grand Jury had provided guidelines for additional communication between the CAC and the RAB. Ms. Lutton noted that several RAB applicants have applied for the CAC and been ignored. Ms. Lutton said that there is a gap between the city's plans for redevelopment and the local community. Ms. Lutton also said that the Health Department has lost credibility with the RAB. Ms. Lutton asked for additional information on private financing for park maintenance. Mr. Cohen responded that financing will be provided by Lennar. Lennar was required to grade the site, demolish structure, improve the infrastructure, and include the open space. The city worked with the CAC to ensure that adequate budget was available for this plan. A tax will be applied on the market-rate housing units to generate funds for maintenance and upkeep of the park.

Ms. Wright asked if the goal of the redevelopment plan was to benefit the local community of Bayview-Hunters Point or to change the demographic composition of the area. Ms. Wright added that most of the local community would not be able to afford the new housing units and would be driven out. Mr. Cohen responded that the city and the community have been working on a plan for HPS since 1991. The redevelopment plan was adopted in 1997 after a 5-year planning effort. This plan has guided redevelopment at the site.

Mr. Hanif asked about the percentages of affordable housing that was planned at HPS. Mr. Cohen responded that 32 to 44 percent of the housing would be affordable. Affordable housing is developed in one of two ways. The San Francisco Redevelopment Agency can obtain federal and state grant money, which is leveraged for low to moderate housing levels. The second method is through inclusionary housing. In this method, 15 percent of a market-rate housing project must be set aside as affordable housing units. The housing levels are set by the Department of Housing and Urban Development. The levels for inclusionary housing were lowered by 20 percent to account for the lower income levels in the Bayview-Hunters Point area. Mr. Cohen said that he could provide the specific data for rental and housing costs to the RAB.

Subcommittee Updates

Lowman Radiological Subcommittee of the Hunters Point Shipyard RAB (Ahimsa Sumchai, Leader)

Dr. Sumchai said that the Lowman Radiological Subcommittee meeting had focused on the nine radiologically contaminated buildings on Parcel B. Dr. Sumchai encouraged RAB members to review the meeting minutes. Dr. Sumchai said that the date of the next subcommittee meeting would need to be determined as a result of the change in the RAB schedule.

Technical Review Subcommittee (Lea Loizos, Leader)

Ms. Loizos said that the Technical Review Subcommittee had continued discussions of metals in soil at Parcel B. The city had provided its position on this issue. The meeting minutes provide details of this discussion.

Ms. Loizos has reviewed the Draft Soil-Gas Sampling Work Plan for IR07 and 18 on Parcel B and had comments that she will forward to the Navy. Ms. Pendergrass said that a motion is needed to approve the comments as coming from the RAB. Ms. Loizos motioned for the Navy to consider the comments to amend the work plan. The four comments include a more thorough description of the site history, several sampling events under varying soil and weather conditions, collecting samples at varying depths, and conducting leak tests as recommended by the California Environmental Protection Agency (EPA).

Dr. Sumchai asked if the Navy could extend the deadline for submitting comments to allow time for the RAB to review these recommendations. Ms. Pendergrass responded that the RAB needed to rely on the work of the subcommittees if they were not able to attend the subcommittee meetings.

Mr. Manuel asked if the federal EPA has already has already completed the actions requested by Ms. Loizos. He noted it would be redundant to have the state EPA repeat tasks already carried out by the federal EPA. Ms. Loizos responded that the State of California released an advisory on how soil gas samples should be collected, including conducting leak tasks, which the work plan currently does not include. Ms. Loizos is requesting that the Navy consider adding the leak tasks to the work plan.

Mr. Tompkins requested an amendment to include splitting samples. Ms. Pendergrass responded that this action would require a separate motion, as Ms. Loizos had already prepared a set of recommendations.

Ms. Lutton suggested that specific depths be recommended by Ms. Loizos for the sampling. Ms. Loizos said the Navy proposed collected soil gas samples at a depth of 5 feet below ground surface; her comment asked for clarification on why this depth was chosen and for consideration to collect the samples at varying depths. Ms. Loizos said that she could not provide specific depths but sought clarification on why that depth was chosen.

The date of the next Technical Review Subcommittee meeting has not been set. Ms. Loizos suggested a discussion on the polychlorinated biphenyl (PCB) removal action work plan at this meeting.

Membership, Bylaws & Community Outreach Subcommittee (Melita Rines, leader)

The Membership, Bylaws & Community Outreach Subcommittee did not meet in January 2005. The next meeting of the Membership, Bylaws & Community Outreach Subcommittee will be February 9, 2005, from 6:30 p.m. to 8:00 p.m. at the Anna Waden Library, 5075 Third Street.

Economic Development Subcommittee (Chris Hanif, Leader)

The Economic Development Subcommittee did not meet in January 2005. The next meeting of the Economic Development Subcommittee will be held February 1, 2005 from 2:30 to 4:30 p.m. at the Anna Waden Library, 5075 Third Street.

Community Comment Period

Ms. Pendergrass said that the RAB members needed to maintain their focus on the responsibilities of the RAB and how they could use their influence on the redevelopment agency. Ms. Pendergrass added that the RAB should develop a strategy to formally present concerns. The charge of the RAB is to advise the Navy on cleanup issues; however, the RAB is also focusing on the intended use, which is outside the authority of the RAB.

Mr. Manuel said that the Brown Act and the Sunshine Act require that public representation be open and honest. A consensus is being reached at these meetings but the public is not aware that these meetings are being held. Ms. Pendergrass said that a means of communication had been developed between the RAB and the Navy with a check and balance system. This same structure was needed between the RAB and the San Francisco Redevelopment Agency. Mr. Manuel said that there needed to be a mechanism so that citizens feel that they have been adequately represented. Mr. Manuel said that the concerns of the local community needed to be addressed.

Mr. Tompkins requested 15 minutes on the February RAB agenda to give a presentation on the health risk factors for a subset of the population. Mr. Forman agreed to include this item on the agenda. Mr. Tompkins added that the design of the redevelopment is not based on the reality of the land.

Mr. Tom Lanphar (Department of Toxic Substances Control) said that he would not be able to attend the February RAB meeting. He would try to send an alternate to the meeting.

Mr. Hanif said that there was a sense of apathy in the community. Mr. Hanif said that another mechanism is needed to make things work differently.

There were no further comments or announcements. The meeting was adjourned at 8:20 p.m.

Reminder: The next RAB meeting will be held from 6:00 to 8:00 P.M., Wednesday evening, 23 February 2005 at Dago Mary's Restaurant, Building #916 on the Shipyard.

ATTACHMENT A

27 JANUARY 2005 - RAB MEETING
LIST OF ATTENDEES

Name	Association
1. Brian Baltimore	Young Community Developers (YCD)
2. Michael Boyd	CARE/EMU
3. Pat Brooks	Navy, Lead Remedial Project Manager
4. Barbara Bushnell	RAB member, Residents of the Southeast Sector (ROSES)
5. Deborah Carroll	The Point
6. Michael Cohen	City and County of San Francisco
7. Charles L. Dacus, Sr.	RAB member, ROSES
8. Arlene Eisen	
9. Keith Forman	Navy, RAB Co-chair
10. Jennifer Gibson	SulTech
11. Chris Hanif	RAB member, YCD
12. Mitsuyo Hasegawa	RAB member, JRM & Associates
13. Carolyn Hunter	SulTech
14. Jackie Lane	RAB member, U.S. Environmental Protection Agency (EPA)
15. Tom Lanphar	RAB member, California Department of Toxic Substances Control
16. Lea Loizos	RAB member, Arc Ecology
17. Kevyn Lutton	RAB member, resident
18. Darnell Joseph	YCD
19. Sherlina Nageer	Literacy for Environmental Justice
20. J.R. Manuel	RAB member, JRM Associates
21. James Morrison	RAB member, ROSES
22. Christine M. Niccoli	Niccoli Reporting, court reporter
23. Marsha Pendergrass	Pendergrass & Associates
24. Jim Ponton	RAB member, Regional Water Quality Control Board
25. Melita Rines	RAB member, India Basin Neighborhood Association
26. Sam Ripley	RAB member, Samoan American Media Services
27. Joanna Robertson	
28. Dennis Robinson	Shaw Environmental & Infrastructure, Inc
29. Clifton Smith	C.J. Smith & Associates, Eagle Environmental Construction
30. Peter Stroganoff	Navy, Resident Officer in Charge of Construction (ROICC) Office
31. Ahimsa Sumchai	RAB member, Bayview-Hunters Point (BVHP) Health and Environmental Resource Center
32. Dennis Tayiri	BAI International
33. Keith Tisdell	RAB member, resident
34. Ray Tompkins	RAB member, Bayview-Hunters Point Health and the Environment
35. Patrick Vaucheret	SWMU
36. Julia Vetromile	SulTech
37. Peter Wilsey	San Francisco Dept of Public Health
38. Michael Work	RAB member, US EPA
39. Leilani Wright	RAB member, JRM Associates

ATTACHMENT B

27 JANUARY 2005 - RAB MEETING
ACTION ITEMS

Item No.	Action Item	Person Authoring the Action Item	Due Date	Person/Agency Committing to Action Item	Resolution Status
Carry-Over Items					
1.	[Modified from December Action Item] Navy to notify David Terzian and Navy Caretaker Site Office regarding the scheduled date for removal of AMC's cranes at Dry Dock 4	RAB	TBD	Navy/Keith Forman	The work plan is being amended. No date has been scheduled yet for the crane removal.
2.	Consider translating RAB meeting documents into Samoan	Sam Ripley	February RAB	Carolyn Hunter	Ms. Hunter is working with Mr. Ripley to identify documents for translation.
New Items					
1.	City of San Francisco to consider a tent with negative atmosphere for dust control during construction at Parcel A	Raymond Tompkins	February RAB	City of San Francisco/ Michael Cohen	

IR-07/18 Soil Gas Survey

Hunters Point Shipyard

RAB Meeting

February 23, 2005

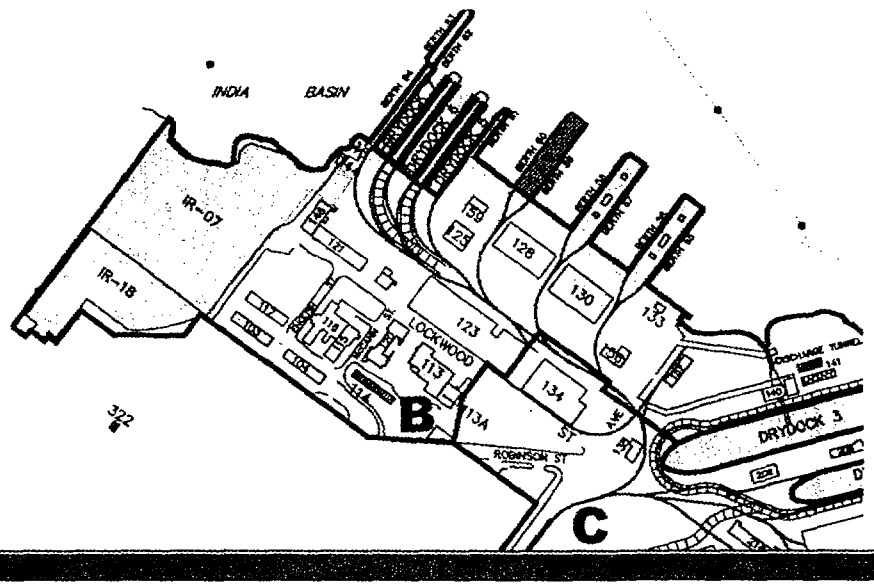
Overview

- Purpose of the investigation
- Sampling methods and field work
- Schedule

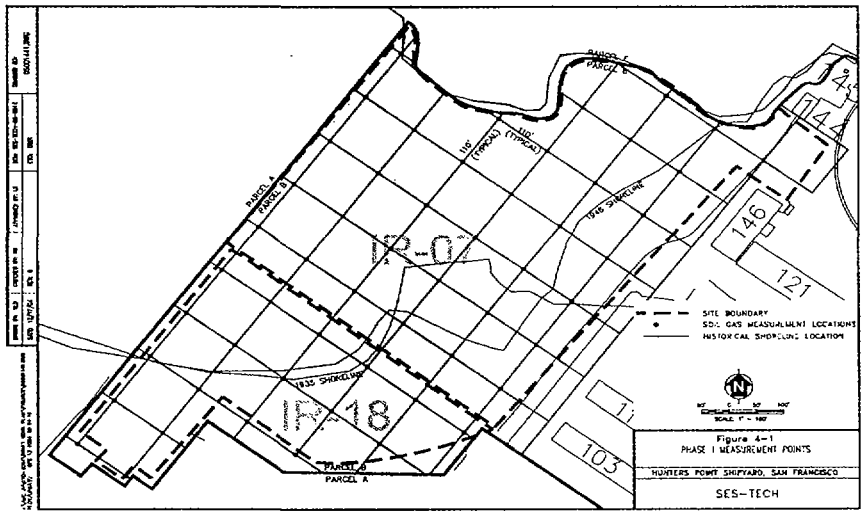
Purpose

- Help design alternatives for Parcel B Record of Decision Amendment
  - — Is methane being produced at IR-07/18?
    - ATSDR report
    - RAB concerns
    - Documented debris and wood in fill
  - —Presence of methane will change remedial alternatives

Parcel B - Location



Sampling Locations



Field Work – Phase 1

- **Walk-Over Survey**
  - **Methane**
    - ✓ GEM 2000
  - **Volatile organic compounds (VOCs)**
    - ✓ Photoionization Detector (PID)
- **Move sampling locations if anything is detected**
- **Modify locations where utilities are present**

Field Work – Phase 1

- Soil gas sampling probes installed to a depth of 5 feet
  - 2 inch probes
- If groundwater is 2 feet deep or less, no sample will be taken

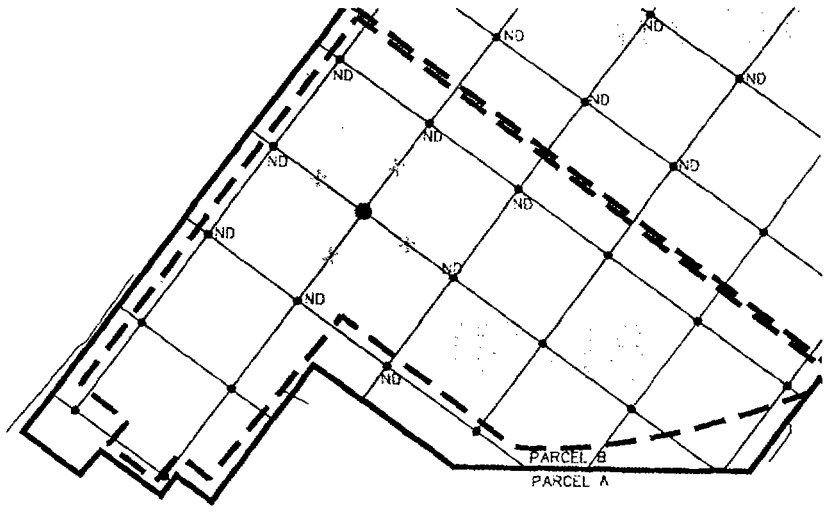
Field Work – Phase 1

- Monitor for methane and VOCs
  - GEM 2000
  - Photoionization Detector (PID)
- Laboratory sampling
- Leak test

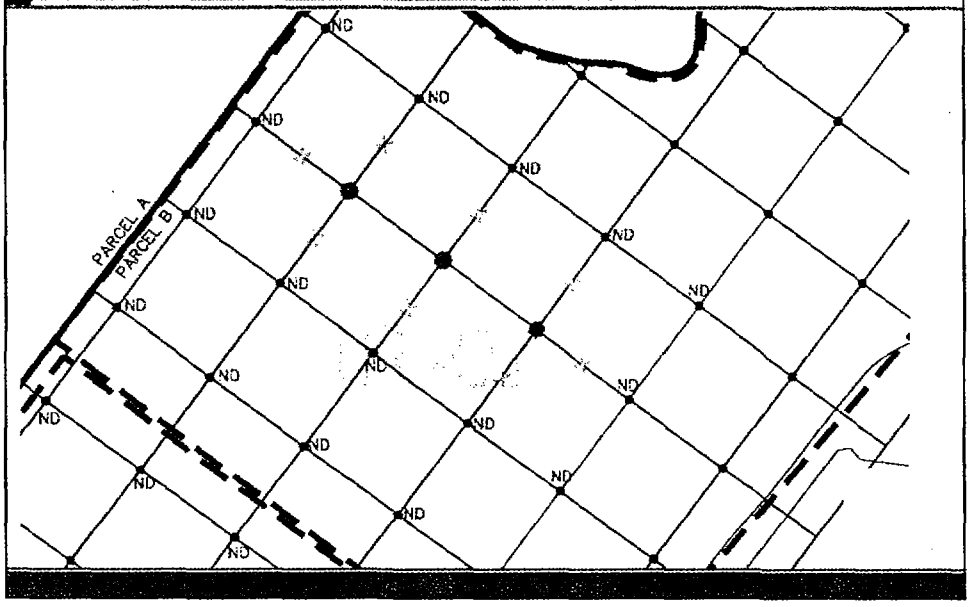
Field Work – Phase 2

- Further characterize methane detections
- Start immediately following Phase 1
- Additional samples will be collected in areas where methane is detected

Field Work – Phase 2

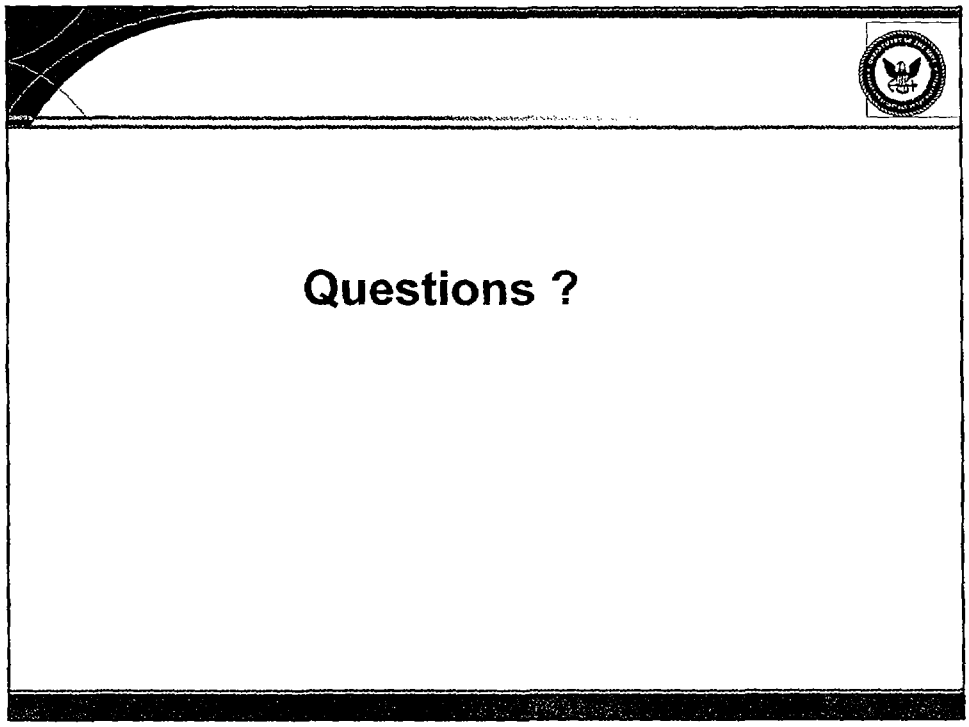


Field Work – Phase 2



Schedule

- **Final work plan mid-March**
  - **Miss rainy season**
  - **Delay if heavy rain**


Questions ?

OFFICE OF THE UNDER SECRETARY OF DEFENSE

3000 DEFENSE PENTAGON
WASHINGTON, DC 20301-3000

ACQUISITION,
TECHNOLOGY
AND LOGISTICS

FEB 04 2005

Dear Concerned Citizen:

The Department of Defense (DoD) is pleased to announce the publication of a proposed rule regarding the establishment, composition, characteristics, scope, operation, funding, adjournment, and dissolution of Restoration Advisory Boards (RABs). DoD proposed this rule in response to 10 U.S.C. § 2705(d)(2)(A), which required the Secretary of Defense to develop regulations governing RABs. The regulations are based on DoD's current policies for establishing and operating RABs, and DoD's ten years experience working with RABs.

DoD understands that communication and cooperation with states, RAB co-chairs, and other stakeholders is fundamental to the success of its Defense Environmental Restoration Program (DERP). It is DoD's policy to involve these parties in all aspects of the environmental restoration process. The partnerships developed with states, RAB co-chairs, and other stakeholders have expedited DoD's fulfillment of its environmental restoration responsibilities. For this reason, we encourage you and all interested members of the public to participate in the review of the proposed RAB rule during the official public comment period, which extends through **March 29, 2005.**

You may participate by submitting your comments electronically to Ms. Patricia Ferrebee, Office of the Deputy Under Secretary of Defense (Environmental Management) through the Web at http://www.denix.osd.mil/rabrule or via electronic mail (e-mail) to Patricia.Ferrebee@osd.mil. Comments may also be mailed to RAB Rule, P.O. Box 5413, McLean, VA 20103-5413. Any questions should be directed to Ms. Ferrebee by telephone at (703) 695-6107. We encourage you to share this proposed rule with other interested stakeholders and community members.

To summarize, DoD is very interested in receiving input about the proposed RAB rule. Please consider participating by submitting comments in one of the abovementioned ways. I thank you for your attention to this letter and your future participation in this effort. This is an important initiative for DoD, and we want to be sure that we fully address the concerns of states, RAB co-chairs, and all other stakeholders as we move forward.

Sincerely,

Alex A. Beehler

Alex A. Beehler
Assistant Deputy Under Secretary of Defense
(Environment, Safety and Occupational Health)

Enclosure

Drafting Information

The principal authors of these regulations are Bruce Perlin and Linda S.F. Marshall of the Office of the Division Counsel/Associate Chief Counsel (Tax Exempt and Government Entities). However, other personnel from the IRS and Treasury participated in their development.

List of Subjects in 26 CFR Part 1

Income taxes, Reporting and recordkeeping requirements.

Proposed Amendments to the Regulations

Accordingly, 26 CFR part 1 is proposed to be amended as follows:

PART 1—INCOME TAX; TAXABLE YEARS BEGINNING AFTER DECEMBER 31, 1986

Paragraph 1. The authority citation for part 1 continues to read in part as follows:

Authority: 26 U.S.C. 7805 * * *

Par. 2. Section 1.401(a)–20 is amended by:

1. Adding a sentence to the end of Q&A–16.

2. Adding a sentence to the end of Q&A–36.

The additions read as follows:

§ 1.401(a)–20 Requirements of qualified joint and survivor annuity and qualified preretirement survivor annuity.

* * * * *

A–16 * * * A plan does not fail to satisfy the requirements of this Q&A–16 merely because the amount payable under an optional form of benefit that is subject to the minimum present value requirement of section 417(e)(3) is calculated using the applicable interest rate (and, for periods when required, the applicable mortality table) under section 417(e)(3).

* * * * *

A–36 * * * However, the rules of § 1.401(a)–20, Q&A–36, as it appeared in 26 CFR Part 1 revised April 1, 2003, apply to the explanation of a QJSA under section 417(a)(3) for an annuity starting date prior to February 1, 2006.

* * * * *

Par. 3. Section 1.417(a)(3)–1 is amended by:

1. Removing the language "paragraph (c)(3)(iii) of" from paragraph (c)(2)(ii)(A).

2. Adding a sentence to the end of paragraph (d)(2)(ii).

3. Adding paragraph (d)(5).

4. Revising paragraph (f).

The additions and revision read as follows:

§ 1.417(a)(3)–1 Required explanation of qualified joint and survivor annuity and qualified preretirement survivor annuity.

* * * * *

(d) * * *

(2) * * *

(ii) *Actual benefit must be disclosed.* * * * Reasonable estimates of the type described in paragraph (c)(3)(i) may be used to determine the normal form of benefit for purposes of this paragraph (d)(2)(ii) if the requirements of paragraphs (c)(3)(ii) and (iii) of this section are satisfied with respect to those estimates.

* * * * *

(5) *Use of participant-specific information in generalized notice.* A QJSA explanation does not fail to satisfy the requirements of this paragraph (d) merely because it contains an item of participant-specific information in place of the corresponding generally applicable information.

* * * * *

(f) *Effective date*—(1) *General effective date for QJSA explanations.* Except as provided in paragraph (f)(2) of this section, this section applies to a QJSA explanation with respect to any distribution with an annuity starting date that is on or after February 1, 2006.

(2) *Special effective date for certain QJSA explanations*—(i) *Application to QJSA explanations with respect to certain optional forms that are less valuable than the QJSA.* This section also applies to a QJSA explanation with respect to any distribution with an annuity starting date that is on or after October 1, 2004, and before February 1, 2006, if the actuarial present value of any optional form of benefit that is subject to the requirements of section 417(e)(3) (*e.g.*, single sums, distributions in the form of partial single sums in combination with annuities, social security level income options, and installment payment options) is less than the actuarial present value (as determined under § 1.417(e)–1(d)) of the QJSA. For purposes of this paragraph (f)(2)(i), the actuarial present value of an optional form is treated as not less than the actuarial present value of the QJSA if—

(A) Using the applicable interest rate and applicable mortality table under § 1.417(e)–1(d)(2) and (3), the actuarial present value of that optional form is not less than the actuarial present value of the QJSA for an unmarried participant; and

(B) Using reasonable actuarial assumptions, the actuarial present value of the QJSA for an unmarried participant is not less than the actuarial present value of the QJSA for a married participant.

(ii) *Requirement to disclose differences in value for certain optional forms.* A QJSA explanation with respect to any distribution with an annuity starting date that is on or after October 1, 2004, and before February 1, 2006, is only required to be provided under this section with respect to—

(A) An optional form of benefit that is subject to the requirements of section 417(e)(3) and that has an actuarial present value that is less than the actuarial present value of the QJSA (as described in paragraph (f)(2)(i) of this section); and

(B) The QJSA (determined without application of paragraph (c)(2)(ii) of this section).

(3) *Annuity starting date.* For purposes of paragraphs (f)(1) and (2) of this section, in the case of a retroactive annuity starting date under section 417(a)(7), as described in § 1.417(e)–1(b)(3)(vi), the date of commencement of the actual payments based on the retroactive annuity starting date is substituted for the annuity starting date.

(4) *Effective date for QPSA explanations.* This section applies to any QPSA explanation provided on or after July 1, 2004.

Mark E. Matthews,

Deputy Commissioner for Services and Enforcement.

[FR Doc. 05–1553 Filed 1–27–05; 8:45 am]

BILLING CODE 4830–01–P

DEPARTMENT OF DEFENSE

32 CFR Part 202

Restoration Advisory Boards (RABs)

AGENCY: Department of Defense, Office of the Deputy Under Secretary of Defense (Installations and Environment), DoD.

ACTION: Proposed rule.

SUMMARY: The Department of Defense (DoD) requests public comment on these proposed regulations regarding the scope, characteristics, composition, funding, establishment, operation, adjournment, and dissolution of Restoration Advisory Boards (RABs). DoD has proposed these regulations in response to 10 U.S.C. 2705(d)(2)(A), which requires the Secretary of Defense to prescribe regulations regarding RABs.

The propose of the RAB is to facilitate public participation in DoD environmental restoration activities and active and closing DoD installations and formerly used defense sites where local communities express interest in such activities. The proposed regulations are based on DoD's current policies for

reestablishing and operating RABs, as well as DoD's experience over the past ten years in using RABs.

DATES: Comments on this proposed rule must be submitted on or before March 29, 2005.

ADDRESSES: Comments on this proposal should be sent to the following address: RAB Rule, P.O. Box #5413, McLean, VA 22103–5413.

The public must send the original, and (whenever possible) a 3.5-inch computer disk containing comments in a common word processing format such as Microsoft Word. Public comments will also be collected via the Defense Environmental Network and Information eXchange (DENIX), located at the following Web site: *https://www.denix.osd.mil/rabruleTBD.*

FOR FURTHER INFORMATION CONTACT: Ms. Patricia Ferrebee, Office of the Deputy Under Secretary of Defense (Environmental Management), at (703) 695–6107.

SUPPLEMENTARY INFORMATION:

Preamble Outline

I. Authority

These regulations are proposed under the authority of section 2705 of title 10, United States Code (U.S.C.).

II. Background

The Defense Environmental Restoration Program (DERP) was established in 1986 to "carry out a program of environmental restoration of facilities under the jurisdiction of the Secretary." Goals of the program include: "(1) Identification, investigation, research and development, and cleanup of contamination from hazardous substances, and pollutants and contaminants. (2) Correction of other environmental damage (such as detection and disposal of unexploded ordnance) which creates an imminent and substantial endangerment to the public health or welfare or to the environment. (3) Demolition and removal of unsafe buildings and structures, including buildings and structures of the Department of Defense at sites formerly used by or under the jurisdiction of the Secretary." (10 U.S.C. 2701) DoD conducts these activities at active and closing Department of Defense (DoD) installations and formerly used defense sites (FUDS). DoD created distinct programs within the DERP to address sites environmentally impacted by DoD's past activities. The Installation Restoration program (IRP) established in 1986 covers environmental restoration activities to address hazardous substances, and, pollutants and contaminants. In September 2001, DoD established the Military Munitions Response program (MMRP) to manage cleanup of unexploded ordnance, discarded military munitions, and munitions constituents at areas other than operational ranges. The Building Demolition/Debris Removal (BD/DR) program category addresses the demolition and removal of unsafe buildings and structures at facilities or sites that are or were owned by, leased to, or otherwise possessed by the United States and under the jurisdiction of the Secretary of Defense.

During the early years of the DERP, the Office of the Secretary of Defense (OSD) managed the Defense Environmental Restoration Account (DERA) for the Department's Military Components—the Army, Navy, Air Force, Defense Logistics Agency (DLA), and Defense Threat Reduction Agency (DTRA)—who execute environmental restoration activities at their respective installations. In 1996, DoD decided to separate, or devolve, DERA into five Environmental Restoration (ER) accounts to better align each Military Component's DERP responsibilities and accountability for environmental cleanup efforts. Policy direction and oversight of the DERP is the responsibility of the Office of the Deputy Under Secretary of defense (Installations and Environment). The DoD Military Components are responsible for program implementation. The Army, Navy, and Air Force manage their own ER accounts. The U.S. Army Corps of Engineers manages the FUDS program for the Army, the Department's designated executive agent for FUDS. The FUDS program addresses environmental impacts on properties DoD once owned, leased, or operated and were under the jurisdiction of the Secretary of Defense. The final ER account, the Defense-Wide account, funds cleanup programs for DLA and DTRA in addition to providing the operating funds for OSD's oversight of the DERP. While DoD manages environmental restoration at Base Realignment and Closure (BRAC) installations as part of the DERP, it funds these environmental restoration activities through a separate BRAC Program account, which is part of DoD's overall Military Construction appropriation.

DoD recognizes the importance of public involvement at military installations. For the purposes of this proposed rule, the term installation means operating and closing DoD installations and FUDS that require environmental restoration. DoD has developed community involvement policies to ensure that local communities are provided the

opportunity as early as possible to obtain information about, and provide input to, the decisions regarding the environmental restoration activities at military installations. It is DoD policy to provide the public an opportunity to participate through the establishment of RABs, among other public involvement opportunities.

Based on statutory and regulatory requirements for community involvement and recommendations from the Federal Facilities Environmental Restoration Dialogue Committee (FFERDC), DoD has strengthened its community involvement efforts, including the RAB initiative, under its environmental restoration program. DoD believes that working in partnership with local communities and addressing the concerns of those communities early in the restoration process has enhanced its efforts under, and increased the credibility of, the environmental restoration program. DoD remains committed to involving communities neighboring its installations in environmental restoration decision processes that may affect human health, safety, and the environment. RABs have become a significant component of DoD's efforts to increase community involvement in DoD's environmental restoration program. RABs provide a continuous forum through which members of affected communities can provide input to an installation's ongoing environmental restoration activities. RAB members provide recommendations regarding environmental restoration to DoD, RABs are not Federal Advisory Committees and are specifically excluded from the requirements of the Federal Advisory Committee Act (10 U.S.C. 2705(d)(2)).

On September 27, 1994, DoD and the Environmental Protection Agency (EPA) jointly issued guidelines for the formation and operation of RABs ("Restoration Advisory Board Implementation Guidelines"). The guidelines describe how to implement the DoD RAB policy and identify each stakeholder's role with the RAB. The guidelines also state that existing Technical Review Committees (TRCs) or similar groups may be expanded or modified to become RABs, and that RABs may fulfill the statutory requirements for establishing TRCs (10 U.S.C. 2705(d)(1) grants DoD the authority to establish RABs instead of TRCs at installations undergoing environmental restoration).

As of September 30, 2003, DoD reported the existence of 298 active RABs across all of the Military Components' installations. Over the past several years, the number of RABs has remained fairly consistent, although the number fluctuates as some RABs adjourn and others form. RABs are one part of DoD's and the Military Components' extensive community outreach and public participation activities, which include compliance with the public notice and participation requirements of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), Resource Conservation and Recovery Act (RCRA), and other federal and state environmental laws as well as considerable consultation with our partners at federal, state and local government agencies. A RAB, however, may address only issues associated with environmental restoration activities under the DERP at DoD installations, including activities conducted under the MMRP category of the DERP to address unexploded ordnance, discarded military munitions, and the chemical constituents of munitions. If a RAB already exists at an installation and MMRP sites are identified, the RAB may be expanded to consider additional issues related to the MMRP sites. If the current RAB or DoD installation decides that it is necessary to involve new stakeholders, the installation should notify potential stakeholders of its intent to expand the RAB and solicit new members who have an interest in issues related to the MMRP. If there is no current RAB active at the installation and MMRP sites are identified, the installation will follow the prescribe guidance for determining sufficient community interest in forming a RAB.

The Secretary of Defense is required to "prescribe regulations regarding the establishment, characteristics, composition, and funding of restoration advisory boards" (10 U.S.C. 2705(d)(2)(A)). DoD's issuance of regulations is not, however, a precondition to the establishment of RABs (10 U.S.C. 2705(d)(2)(B)). Therefore, DoD proposes these regulations regarding the scope, characteristics, composition, funding, establishment, operation, adjournment, and dissolution of RABs. DoD recognizes that each RAB established will be a unique organization dealing with installation-specific issues. This proposal, developed consistent with the recommendations set forth in the FFERDC's Final Report, is consistent with existing DoD and EPA policy on RABs, and reflects over ten years of experience in establishing and operating RABs throughout the United States. DoD has structured this proposal to maximize flexibility for RAB members and installations nationwide.

III. Summary of the Proposed Rule

DoD is requesting public comment on these proposed regulations regarding the scope, characteristics, composition, funding, establishment, operation, adjournment, and dissolution of RABs. This section of the preamble provides a summary of the proposed regulations in 32 CFR part 202.

A. General Requirements

In this section of the proposed rule, DoD discusses the purpose, scope, relevant definitions, and applicability of the proposed regulations for RABs. DoD is required by 10 U.S.C. 2705(d)(2)(A) to issue regulations concerning the establishment, characteristics, composition, and funding of RABs. When issued as a final rule, the regulations will apply to all RABs, regardless of when they were established.

In this proposal, DoD defines the purposes of a RAB as follows:

- Provide an expanded opportunity for stakeholder involvement in the environmental restoration process at DoD installations.
- Act as a forum for the discussion and exchange of restoration program information, addressing the concerns of stakeholders and effectively reaching key groups and representatives from DoD, regulatory agencies, tribes, and the community.
- Provide an opportunity for RAB members to review progress and participate in a dialogue with the installation's decision makers concerning environmental restoration matters. Installations will listen, carefully consider, and provide specific responses to the recommendations provided by the individual RAB members. While a RAB will complement other community involvement efforts the installation undertakes concerning environmental restoration, a RAB does not replace other types of community outreach and participation activities required by applicable federal and state laws.

A RAB may address issues associated with environmental restoration activities under the DERP at DoD installations. DoD funds RABs with money dedicated to supporting environmental restoration activities under the DERP. DoD understands that RABs may want to address environmental issues beyond the scope of environmental restoration activities. In these circumstances the installation co-chair should assist the interested individuals in finding the proper venue

to support a broader scope of issues. Environmental groups or advisory boards that address issues other than environmental restoration activities are not governed by this regulation.

The Office of the Deputy Under Secretary of Defense for Installations and Environment will issue guidance regarding the scope, characteristics, composition, funding, establishment, operation, adjournment, and dissolution of RABs pursuant to this rule. The issuance of the guidance is not a precondition to the establishment of RABs or the implementation of this rule.

This section of the proposed rule also discusses the criteria for establishment, notification of the formation, and composition of a RAB.

B. Operating Requirements

In this section of the proposed rule, DoD establishes basic requirements for the operation of a RAB. DoD proposes that each RAB will have a mission statement that describes its overall purpose and goals. DoD also specifies certain requirements regarding the selection process for co-chairs.

DoD proposes that each RAB will develop a set of operating procedures. Areas that may be addressed in the procedures include: clearly defined goals and objectives for the RAB, as determined by the DoD installation co-chair in consultation with the RAB; development and approval procedures for the RAB meeting minutes; attendance of members at meetings; meeting frequency and location; rules of order; frequency and procedures for conducting training; procedures for selecting, adding, or removing RAB members and co-chairs; specifics on the size of the RAB membership and the length of service for RAB members and co-chairs; methods for resolving disputes; processes for reviewing and responding to public comments on issues being addressed by the RAB; procedures for public participation in RAB activities; and keeping the public informed about RAB proceedings.

DoD is not proposing specified requirements concerning the conduct of RAB meetings because the meeting format of each RAB will vary and be dictated by the needs of the participants. DoD proposes, however, that all RAB meetings be open to the public; the installation will provide timely notice of each meeting in a local newspaper of general circulation; each RAB meeting will be held at a reasonable time and in a manner or place reasonably accessible to and usable by persons with disabilities; the installation co-chair will prepare meeting minutes of the RAB meetings; and the meeting minutes and other relevant documents will be available for public inspection and copying at a single, publicly accessible location. Additionally, the installation will document information on the activities of a RAB in the information repository.

In this section of the proposed rule, DoD also establishes requirements for adjourning a RAB. An Installation Commander may adjourn a RAB when there is no longer a need for a RAB or when community interest in the RAB declines. For FUDS, the Installation Commander may be the District Commander or equivalent.

Although Installation Commanders are expected to make every reasonable effort to ensure that a RAB performs its role as efficiently as possible, circumstances may prevent a RAB from operating efficiently or fulfilling its intended purpose. When this occurs, the Installation Commander will make a concerted attempt to resolve the issues that affect the RAB's effectiveness. If unsuccessful, the Installation Commander may elect to dissolve the RAB. The Installation Commander should discuss dissolution with regulators and the community as a whole before making a final decision. This section of the rule provides guidelines for how an Installation Commander may elect to dissolve a RAB.

In this section of the proposed rule, DoD sets forth requirements for adjourning a RAB, adjournment procedures, dissolving a RAB, dissolution procedures, reestablishing an adjourned or dissolved RAB, and public comment.

C. Administrative Support, Funding, and Reporting Requirements

In this section of the proposed rule, DoD sets forth requirements regarding administrative support for establishing, operating, and adjourning or dissolving a RAB, funding for administrative support, and reporting requirements regarding the activities and administrative expenses associated with RABs.

The Installation Commander, or if there is no such Commander, an appropriate DoD official, is authorized to pay for routine administrative expenses of a RAB established at an installation (10 U.S.C. 2705(d)(3)). To implement this provision, this proposed rule requires that the installation provide administrative support to establish and operate a RAB, subject to the availability of funds. The scope of this support corresponds to those activities that are eligible for DoD funding, including:

- RAB establishment
- Membership selection
- Training that meets certain criteria
- Meeting announcements
- Meeting facility, including accommodations necessary to comply with the Americans with Disabilities Act
- Meeting facilitators, including translators
- Meeting materials and minutes preparation
- RAB-member mailing list maintenance and RAB materials distribution
- RAB adjournment and dissolution.

The Secretaries of the Military Departments will make funds available for RAB administrative expenses (10 U.S.C. 2705(g)), subject to appropriations. The proposed rule establishes these requirements and specifies that active installations should pay for RAB administrative expenses using funds from their Military Component's ER accounts. The ER-FUDS account is used to pay for RAB administrative expenses at FUDS. At BRAC installations, the Base Closure account is used to pay for RAB administrative expenses.

This section of the rule also discusses the opportunities for the RAB to obtain technical assistance to facilitate members' understanding of the scientific and engineering issues underlying environmental restoration activities through DoD's Technical Assistance for Public Participation (TAPP) program. The DoD installation may also provide in-house assistance to discuss technical issues.

DoD is required to report annually to Congress on the activities of Technical Review Committees (TRCs) and RABs (10 U.S.C. 2706(a)(2)(J)). In order to fulfill this requirement, this proposed rule requires that where RABs are established the installation documents the activities of the RAB and tracks expenditures for administrative expenses of the RAB. This proposed rule does not prescribe specific procedures for the installation to follow as part of DoD's information collection when reporting to Congress. Rather, DoD will rely on existing internal reporting mechanisms within the Department and Military Components to collect this information annually.

IV. Section-by-Section Analysis of the Proposed Rule

This section of the preamble presents an analysis of each section of the proposed rule.

A. General Requirements

1. Purpose, Scope, Definitions, and Applicability

a. Purpose. The purpose of this part is to establish regulations regarding the characteristics, composition, funding, and establishment of RABs, as required by 10 U.S.C. 2705(d)(2)(A), and the operation, adjournment, and dissolution of RABs.

b. Purpose and Scope of Responsibilities of a RAB. DoD is proposing the purposes of a RAB be:

- To provide an expanded opportunity for stakeholder involvement in the environmental restoration process at DoD installations. DoD considers "stakeholders" to be parties that are actually or potentially affected by environmental restoration activities at an installation.
- To act as a forum for the discussion and exchange of restoration program information between DoD, regulatory agencies, and the community.
- To provide an opportunity for RAB members to review progress and participate in a dialogue with the installation's decision makers concerning environmental restoration matters. Installations will listen, give careful consideration, and provide specific responses to the recommendations provided by individual RAB members. Consensus is not a prerequisite for RAB member recommendations.

A RAB may address issues associated with environmental restoration activities under the DERP at DoD installations. DoD funds RABs with money dedicated to supporting environmental restoration activities under the DERP. DoD understands that RABs may want to address environmental issues beyond the scope of environmental restoration activities. In these circumstances the installation should assist the interested individuals in finding the proper venue to support a broader scope of issues. Environmental groups, advisory boards, or other entities that address issues other than environmental restoration activities are not RABs.

This proposed rule does not list specific responsibilities of RAB members, but DoD considers the following types of activities within the scope of RAB members' functions:

- Providing advice to the installation, EPA, state regulatory agency, and other government agencies on restoration activities and community involvement.
- Addressing important issues related to restoration, such as the scope of studies, cleanup levels, waste management, and remedial action alternatives.
- Reviewing and evaluating documents associated with environmental restoration activities, such as plans and technical reports.
- Identifying environmental restoration projects to be accomplished in the next fiscal year and beyond.
- Recommending priorities among environmental restoration sites or projects.
- Attending regular meetings that are open to the public and scheduled at convenient times and locations.
- Interacting with the local redevelopment authority (LRA) or other land use planning bodies to discuss future land use issues relevant to environmental restoration decision-making.
- Providing feedback to other community members on RAB activities and share community concerns and input with the RAB.

By establishing a RAB, DoD hopes to ensure that interested stakeholders have a voice and can actively participate in a timely and thorough manner in the planning and implementation of the environmental restoration process. A RAB will serve as one method for the expression and careful consideration of diverse points of view.

Installations will listen and give careful consideration to all advice provided by individual members.

DoD proposes that each installation undergoing environmental restoration activities establish a RAB where there is sufficient and sustained community interest. Where TRCs or similar advisory groups already exist, the TRC or similar advisory group will be considered for conversion to a RAB, provided there is sufficient and sustained interest within the community. DoD will recognize only one RAB or TRC per installation.

c. Definitions. In this section:

- Installation will include active and closing Department of Defense (DoD) installations and formerly used defense sites (FUDS).
- Community RAB member shall mean those individuals identified by community members and appointed by the Installation Commander to participate in a RAB who live and/or work in the affected community or are affected by the installation's environmental program.
- Environmental restoration shall include the identification, investigation, research and development, and cleanup of contamination from hazardous substances, and pollutants and contaminants.
- Installation Commander will include the Commanding Officer of an installation; the Installation Commander or other Military Department officials who close the facility and are responsible for its disposal at BRAC installations; or the U.S. Army Corps of Engineers Project Management District Commander at FUDS properties.
- Public participants shall include anyone else who may want to attend the RAB meetings, including those individuals who may not live and/or work in the affected community or may not be affected by the installation's environmental program but would like to attend and provide comments to the RAB.
- Stakeholders are those parties that may be affected by environmental restoration activities at an installation, including family members of military personnel and civilian workers, and tribal community members and indigenous people, as appropriate.
- Tribes means any federally recognized American Indian and Alaska Native government as defined by the most current Department of Interior/ Bureau of Indian Affairs list of tribal entities published in the Federal Register pursuant to Section 104 of the Federally Recognized Tribe Act.
- RAB adjournment means when an Installation Commander, in consultation with the EPA, state, tribes, RAB members, and the local community, as appropriate, closes the RAB based on a determination that there is no longer a need for a RAB or when community interest in the RAB declines sufficiently.
- RAB dissolution means when an Installation Commander disbands a RAB that is no longer fulfilling the intended purpose of advising and providing community input to an Installation Commander and decision makers on environmental cleanup projects. Installation Commanders are expected to make every reasonable effort to ensure that a RAB performs its role as effectively as possible and makes a concerted attempt to resolve issues that affect the RAB's effectiveness. There are circumstances, however, that may prevent a RAB from operating efficiently or fulfilling its intended purpose.

d. Other Public Involvement Activities. RABs are one part of DoD and the Military Components' extensive community outreach and public participation activities, which include compliance with the public notice and participation requirements of CERCLA, RCRA, and other federal and state environmental laws, as well as considerable consultation with our partners at federal, state, and local environmental and resource agencies.

e. Applicability of Regulations to Existing RABs. DoD is proposing these

regulations regarding the establishment, characteristics, composition, and funding of RABs (10 U.S.C. 2705(d)(2)A)) to formalize current Department policy. DoD intends that the final regulations will apply to all RABs, including RABs established prior to the effective date of the final rule. DoD does not consider that applying final regulations to RABs already established will pose any additional requirements or conflict because the proposed regulations are based on existing DoD policy that has been implemented since September 1994.

f. Guidance. The Office of the Deputy Under Secretary of Defense for Environment will issue guidance regarding the scope, characteristics, composition, funding, establishment, operation, adjournment, and dissolution of RABs pursuant to this rule. The issuance of the guidance is not a precondition to the establishment of RABs or the implementation of this rule.

2. Criteria for Establishment

a. Determining if Sufficient Interest Warrants Establishing a RAB. In this rule, RABs may only be established at installations undergoing environmental restoration. There may be only one RAB per installation. In accordance with existing policy, DoD proposes that a RAB be established when the Installation Commander finds sufficient and sustained community interest and any of the following criteria are met:

- The closure of an installation involves the transfer of property to the community;
- At least 50 local citizens petition for a RAB;
- Federal, state, tribal, or local government representatives request formation of a RAB; or
- The installation determines the need for a RAB.

To clarify how an installation will determine the need for a RAB, DoD proposes that the Installation Commander determine the level of interest within the community for establishing a RAB by:

- Reviewing correspondence files;
- Reviewing media coverage;
- Consulting community members;
- Consulting relevant government officials; and
- Evaluating responses to communication efforts, such as notices placed in local newspapers.

At the majority of installations that have an environmental restoration program, DoD expects that local communities will be interested in forming a RAB. DoD notes that installation efforts identify the level of community interest in establishing a RAB should not be limited to a one-time assessment of the criteria discussed above. In special circumstances it may be advantageous to establish a joint RAB for multiple installations. The decision to establish a joint RAB must be made in consultation with RAB members. Only one RAB, however, will be recognized per installation. If a RAB already exists at an installation and there will be MMRP sites, the RAB may be expanded to consider issues related to the MMRP sites. If the current RAB or DoD installation decides that it is necessary to involve new stakeholders, then installation should notify potential stakeholders of its intent to expand the RAB and solicit net members who have an interest in issues related to the MMRP.

Where RABs are not formed initially, installations undergoing environmental restoration activities will reassess community interest at least every 24 months. Reassessment of community interest should include public notice through local media, such as a local newspaper. Where the reassessment finds sufficient and sustained community interest, the installation should establish a RAB. Where the reassessment does not find sufficient and sustained community interest in a RAB, the installation will document, in a memorandum for the Administrative Record, the procedures followed in the reassessment and the findings of the reassessment.

When all environmental restoration decisions have been made and required remedies are in place and properly operating at an installation, reassessment of the community interest for establishing or reestablishing a RAB is not necessary every 24 months. When additional environmental restoration decisions have to be made resulting from subsequent actions, such as long-term monitoring and five-year reviews, the installation will reassess community interest for establishing or reestablishing a RAB.

b. Responsibility for Forming and Operating a RAB. Once the installation determines that a RAB will be established, DoD proposes that the Installation Commander have the lead responsibility for forming and operating the RAB. The Installation Commander should have lead responsibility because the RAB will be an integral part of the installation's community involvement and outreach programs. The Installation Commander may also delegate his or her duties to appropriate personnel but retains oversight authority and responsibility. DoD recommends that installations involve, as appropriate, EPA, and state, tribal, and local governments and community members in all phases of RAB planning and operation.

c. Converting Existing Technical Review Committees (TRCs) to RABs. Before the implementation of RABs, TRCs were established at DoD installations to provide interested parties with a forum to discuss and provide input into environmental restoration activities. In accordance with 10 U.S.C. 2705(d)(1), a RAB fulfills the requirements of 10 U.S.C. 2705(c), which directs DoD to establish TRCs. DoD recommends that, where TRCs or similar advisory groups already exist, provided there is sufficient and sustained interest within the community for a RAB, the TRC or similar advisory group should be considered for conversion to a RAB.

RABs expand the TRC initiative in the following ways: (1) RABs involve a greater number of community members than TRCs, thereby better incorporating the diverse needs and concerns of the community directly affected by environmental restoration activities; and (2) chairmanship of the RAB is shared between the installation and community, promoting partnership and careful consideration of the community's concerns in the decision-making process.

In order to convert a TRC to a RAB, DoD should increase community representation, evaluate and ensure the diversity of community representation, add a community co-chair, and open meetings to the public.

3. Notification of Formation of a RAB

a. Public Notice and Outreach. Prior to establishing a RAB or converting a TRC to a RAB, DoD proposes that an installation notify potential stakeholders of its intent to form a RAB. In announcing the formation of a RAB, the installation should describe the purpose of a RAB and discuss membership opportunities.

DoD recommends that every effort be made to ensure that a broad spectrum of individuals or groups representing the community's interests are informed about the RAB, its purposes, and membership opportunities. In some cases, it may necessary that the installation directly solicit some groups or organizations, particularly groups that may be traditionally under represented, such as low-income and minority segments of the population. It is important that RAB memberships are fairly balanced in terms of points of view represented and functions to be performed. Installations should consult the existing TRC, EPA, and state, tribal, and local government representatives

for information or other comments before providing this notice.

b. RAB Information Meeting. While not required in the proposed rule, DoD suggests that an installation sponsor an informational meeting prior to establishing a RAB. The focus of this meeting will be to introduce the concept of RABs to the community and to begin the membership solicitation process.

4. Composition of a RAB

a. Membership. RAB membership shall be well balanced and reflect the diverse interests within the local community. Therefore, DoD proposes that each RAB should consist of representatives of the Military Component (the U.S. Army Corps of Engineers for FUDS), members of the community, EPA, and state, tribal, or local government representatives, as appropriate. RAB meetings will be widely publicized and open to all. Representatives of organizations and agencies who lie and work outside the affected area are encouraged to voice their opinions at RAB meetings within the rules of conduct established by the RAB.

b. Government Representation. In addition to the Military Component, DoD proposes that EPA and state, tribal, and local governments should be represented on the RAB, as they fulfill important roles because of their regulatory oversight of DoD environmental restoration activities. Potential candidates may include the Remedial Project Manager (RPM) from the installation, EPA at the discretion of the EPA Administrator, as well as representatives from the state, tribal, or local government agencies. In the case of closing military installations, members of the BRAC Cleanup Team (BCT) may serve on the RAB as government representatives. It is important that any government representative chosen for RAB membership dedicate the time necessary, and have sufficient authority, to fulfill all RAB responsibilities.

Ideally, DoD believes that RABs should have only one representative from each government agency, so as to prevent an inordinate representation by government and DoD officials. While DoD encourages other government representatives to attend RAB meetings, these representatives' role will be strictly one of providing information and support.

c. Community Representation. While DoD is not proposing specific procedures to be used for selecting community members of the RAB, DoD notes that one of the most sensitive issues facing installations that establish a RAB concerns the selection of community members. When members of the community feel the selection process for RAB members, particularly of community members, is conducted in an objective and unbiased manner, it enhances their perception that the RAB can be a credible forum for the discussion of their issues and concerns. If the selection of community members is not approached carefully, the result can be a loss of trust.

To support the objective selection of community RAB members, installations will use a selection panel comprised of community members to nominate community RAB members. The Installation Commander in consultation with the state, tribal, and local governments and EPA, as appropriate, will identify community interests and solicit names of individuals who can represent these interests on the selection panel. The panel will establish and announce the following:

- Procedures for nominating community RAB members,
- Process for reviewing community interest,
- Criteria for selecting community RAB members, and
- List of RAB nominees.

Following the panel nominations, the Installation Commander, in consultation with the state and EPA as appropriate, will review the nominations to ensure the panel fairly represents the local community. The Installation Commander will then appoint the community RAB members.

Some installations are located in close proximity to American Indian and Alaska Native communities. While DoD encourages individual tribal members to participate on RABs, RABs in no way replace or serve as a substitute forum for the government-to-government relationship between DoD and federally-recognized tribes, as defined by the most current Department of Interior/Bureau of Indian Affairs list of tribal entities published in the **Federal Register** pursuant to Section 104 of the Federally Recognized Indian Tribe List Act.

RAB community members should live and/or work in the affected community or be affected by the installation's environmental restoration program. DoD will not limit participation in the RAB of potential members who have or may bid on DoD contracts, if proper and appropriate assurances to avoid any potential conflicts of interest are issued. DoD will, however, apply applicable conflict of interest rules, pursuant to the Federal Acquisition Regulation.

At closing installations, members of the LRA, as defined under BRAC, are included as stakeholders and are encouraged to attend RAB meetings. There is not a specific requirement, however, that LRA members be invited to be a member of the RAB.

d. Chairmanship. DoD proposes that chairmanship of the RAB be shared between the installation and the community. DoD believes this will promote partnering between DoD and the community and reflect DoD's commitment to consider the community's concerns when making decisions about the environmental restoration process. Together, the installation and community co-chairs jointly will determine meeting agendas, run meetings, and ensure that issues related to environmental restoration are raised and adequately considered.

e. Compensation for Community RAB Members. DoD also is specifying in the proposed rule that the community co-chair and community RAB members are expected to serve without compensation for their services. DoD considers community membership on a RAB to be voluntary, and, therefore, DoD will not pay these members for their participation.

f. Roles and Responsibilities of Members. DoD is not proposing specific requirements concerning the roles and responsibilities of individual members of a RAB. DoD considers the issuance of such regulations to be overly burdensome to the formation and operation of RABs, and, therefore, unnecessary.

B. Operating Requirements

1. Creating a Mission Statement

DoD proposes that each RAB should have a mission statement that articulates the overall purpose of the RAB. DoD considers this necessary to provide focus and objectives for the group. In addition, when members of the RAB understand their mission from the onset, it provides a framework for discussions. Without the framework, discussions may become hampered with issues that are not relevant to the environmental restoration process. The DoD installation co-chair in conjunction with the RAB members will determine the RAB mission statement consistent with guidance provided by the DoD Component. The mission statement should be discussed with the RAB and the DoD installation co-chair will listen to and consider the RAB members' comments before finalizing.

2. Selecting Co-Chairs

DoD proposes that the installation co-chair be selected either by the Installation Commander or equivalent,

or defined by military service-specific guidance, while the community members of the RAB will select the community co-chair. DoD considers it necessary for the community members to select their co-chair to ensure their active participation in the operation of the RAB and to help ensure that the RAB can be a credible forum for discussing community issues and concerns. Public participants are not afforded the opportunity to vote for the community co-chair.

3. Developing Operating Procedures

DoD considers a formal and agreed-upon set of operating procedures necessary to manage the business of RABs. While DoD will allow each RAB to customize or tailor its operating procedures as it sees fit, DoD proposes that the co-chairs be responsible for the operating procedures, to include:

- Setting clearly defined goals and objectives for the RAB. These should be discussed with the RAB, and the DoD installation co-chair will listen to, consider, and provide specific responses to the RAB members' comments before finalizing the goals and objectives.
- Ensuring that an agenda is developed for RAB meetings. The agenda is considered an important organizational tool that should be developed to reflect the interests and concerns of RAB members.
- Announcing meetings.
- Establishing attendance requirements of members at meetings.
- Developing and approving procedures for the minutes of RAB meetings.
- Meeting frequency and location.
- Establishing the Rules of Order.
- Announcing the frequency and procedures for conducting training.
- Establishing procedures for selecting or replacing the community co-chair and selecting, replacing, or adding community RAB members.
- Specifying the size of the RAB membership and the periods for membership and co-chair length of service.
- Reviewing and responding to public comments.
- Establishing the participation of the public.
- Keeping the public informed about proceedings of the RAB.
- Discussing the agenda for the next meeting and issues to be addressed.

4. *Training RAB Members*

DoD is not proposing a requirement for training members of the RAB. DoD believes, however, that RAB members may need some initial orientation training to enable them to fulfill their responsibilities. DoD recommends that the installation should work with EPA, the state, tribes, and environmental groups to develop methods to quickly inform and educate the RAB members and to promote the rapid formation of a fully functioning RAB.

DoD notes that under this proposed rule, only certain types of training will be considered within the scope of administrative support for RABs, and therefore, may be financed using funds allocated to the administrative expenses of RABs. DoD further discusses training in context of administrative support eligible for available funding in section IV.C.1.b. of this preamble.

5. *Conducting RAB Meetings*

a. Public Participation. DoD believes the meeting format of each RAB will vary and be dictated by the needs of the participants. Therefore, DoD is not proposing specific procedures for conducting RAB meetings. All RAB meetings, however, shall be open to the public. The installation co-chair should prepare and publish a timely public notice in a local newspaper of general circulation announcing each RAB meeting. Each RAB meeting will be held at a reasonable time and in a manner or place reasonably accessible to and usable by persons with disabilities. Interested persons will be permitted to attend, appear before, or file statements with any RAB, subject to such reasonable rules or regulations that may be prescribed.

b. Nature of Discussions. Regarding the nature of discussions at RAB meetings, the installation will listen and give careful consideration to all advice provided by the individual RAB members. While voting or polling the members may facilitate RAB discussions, such votes are advisory only and not binding on agency decision makers. It is a RAB's decision on how to propose and debate recommendations; and this decision should be agreed upon by the RAB. Group consensus is not a prerequisite for RAB input; each member of the RAB may provide advice as an individual.

c. Meeting Facilitator: RABs may recommend to use a trained facilitator who is a neutral third-party and is acceptable to all members of the board. The facilitator's role is to guide the RAB through a cooperative communication process in order to fulfill the group's stated purpose or agenda as easily as possible. The facilitator has no substantive decision-making authority. The facilitator focuses on the group's communication process rather than the technical content of what is discussed.

d. Meeting minutes. DoD proposes that the installation co-chair, in coordination with the community co-chair, will prepare minutes of each RAB meeting. The RAB meeting minutes will be kept and will contain a record of the persons present, a complete and accurate description of matters discussed and opinions voiced, and copies of all reports received, issued, or considered by the RAB. At the installation's discretion, a court reporter or electronic taping is allowable, whether through live transmission or video or audiotape. The accuracy of all minutes will be certified by the RAB co-chairs. Although not required, DoD recommends that the installation consider mailing copies of the minutes to all community members who attended the meeting and/or to people identified on the installation's community relations mailing list. This is to ensure dissemination of the results to community members and interested parties.

6. RAB Adjournment and Dissolution

In this section of the proposed rule, DoD sets forth requirements for adjourning a RAB, adjournment procedures, dissolving a RAB, dissolution procedures, reestablishing an adjourned or dissolved RAB, and public comment.

a. *RAB Adjournment*

(1) Requirements for RAB Adjournment. An Installation Commander may adjourn a RAB when there is no longer a need for a RAB or when community interest in the RAB declines.

RABs may adjourn in the following situations:

- A record of decision has been signed for all DERP sites on the installation.
- An installation has achieved response complete at all sites and no further environmental restoration decisions are required.
- An installation has all remedies in place. When all environmental restoration decisions have been made and required remedies are in place and properly operating at an installation, the RAB may adjourn or decide to become inactive. The installation (or the designated authority at closure installations) will establish a mechanism to inform the community, including former RAB members, about subsequent actions, such as long-term monitoring and five-year reviews, that may interest the RAB and allow the community to address this information as appropriate. At a minimum, the installation will provide this

information to the community through status report mailings, Web sites, or local information repositories.

• The RAB has achieved its objectives as defined in the RAB Operating Procedures.

• If there is no longer sufficient, sustained community interest, as documented by the installation with RAB community members and community-at-large input, to sustain the RAB. The Installation Commander will be responsible for reassessing community interest that could warrant reactivating or reestablishing the RAB.

• The installation has been transferred out of DoD control and DoD is no longer responsible for making restoration response decisions.

(2) Adjournment Procedures. The Installation Commander should consult with EPA, states, tribes, RAB members, and the local community, as appropriate, regarding adjourning the RAB before making a final decision. The Installation Commander should consider all responses when determining the appropriate action.

If the Installation Commander decides to adjourn the RAB, the Installation Commander will document the rationale for adjournment in a memorandum for inclusion in the Administrative record, notify the public of the decision through written notice to the RAB members and through publication of a notice in a local newspaper of general circulation, and describe other ongoing public involvement opportunities that are available.

b. RAB Dissolution

(1) Requirements for RAB Dissolution. An Installation Commander may recommend dissolution of a RAB when a RAB is no longer fulfilling the intended purpose of advising and providing community input to an Installation Commander and decision makers on environmental cleanup projects as described in IV.A.1.b. Although Installation Commanders are expected to make every reasonable effort to ensure that a RAB performs its role as effectively as possible, circumstances may prevent a RAB from fulfilling the intended purpose as described in this rule. When this occurs, the Installation Commander will make a concerted attempt to resolve the issues that affect the RAB's effectiveness. If unsuccessful, the Installation Commander may elect to recommend dissolution of the RAB. In making such a decision, if environmental restoration activities are not complete, the Installation Commander should ensure that the community involvement program detailed in the Community Relations Plan provides for continued effective stakeholder input.

(2) Dissolution Procedures. The installation co-chair should consult with the community, EPA and state, tribal and local government representatives as appropriate, regarding dissolving the RAB. The installation co-chair should notify the RAB community co-chair and members in writing of the intent to dissolve the RAB and the reasons for doing so, and provide the RAB members 30 days to respond in writing. The installation co-chair should consider RAB member responses, and in consultation with EPA and state, tribal and local government representatives, as appropriate, determine the appropriate action.

If the Installation Commander decides to proceed with recommending the RAB for dissolution, the Installation Commander should notify the public of the proposal to dissolve the RAB and provide a 30-day public comment period on the proposal (see section d. Public Comment for further discussion). At the conclusion of the public comment period, the Installation Commander will review the public comments, consult with EPA, state, tribal and local government representatives, as appropriate, and render a recommendation.

The recommendation, responsiveness summary, and all supporting documentation should be sent via the chain-of-command to the Military Component's Environmental Deputy Assistant Secretary (or equivalent) for approval or disapproval. The Military Component's Environmental Deputy Assistant Secretary (or equivalent) will notify the Office of the Deputy Under Secretary of Defense (Installations & Environment) (or equivalent) of the decision to approve or disapprove the request to dissolve the RAB and the rationale for that decision.

Once the Military Component's Environmental Deputy Assistant Secretary (or equivalent) makes a final decision, the Installation Commander will document the rationale for dissolution in a memorandum for inclusion in the Administrative Record, notify the public of the decision through written notice to the RAB members and through publication of a notice in a local newspaper of general circulation, and describe other ongoing public involvement opportunities that are available.

c. Reestablishing an Adjourned or Dissolved RAB. An installation may reestablish an adjourned or dissolved RAB if there is sufficient and sustained community interest in doing so and there are environmental restoration activities still ongoing at the installation. Where a RAB is adjourned or dissolved and environmental restoration activities continue, the installation should reassess community interest at least every 24 months. When all environmental restoration decisions have been made and required remedies are in place and properly operating at an installation, reassessment of the community interest for reestablishing the RAB is not necessary. When additional environmental restoration decisions have to be made resulting from subsequent actions, such as long-term monitoring and five-year reviews, the installation will reassess community interest for reestablishing the RAB.

Reassessment should include, at a minimum, consultation with the chain-of-command, EPA, state, tribes, and the local community as appropriate, and a 30-day public comment period (see section d. Public Comment for further discussion). Where the reassessment finds sufficient and sustained community interest, at a previously adjourned RAB the Installation Commander should reestablish a RAB.

If there is interest for reestablishment at a previously dissolved RAB, but the Installation Commander determines that the same conditions exist that required the original dissolution, he or she will request, through the chain of command to the service component deputy assistant secretary, an exception to reestablishing the RAB. If those conditions no longer exist at a previously dissolved RAB, and there is interest in reestablishment the Installation Commander should notify the deputy assistant secretary of their recommendation for the RAB to be reestablished. The deputy assistant secretary will take the Installation Commander's recommendation under advisement and may approve that RAB for reestablishment.

Where the reassessment does not find sufficient and sustained community interest in reestablishing the RAB, the Installation Commander should document (in a memorandum for the record) the procedures followed in the reassessment and the findings of the reassessment. This document will be included in the Administrative Record for the installation.

d. Public Comment. If the Installation Commander intends to recommend dissolution of a RAB or reestablish a dissolved RAB, the Installation Commander will notify the public of the proposal to dissolve or reestablish the RAB and provide a 30-day public comment period on the proposal. The Installation Commander will notify the public of the decision through

publication of a notice in a local newspaper of general circulation and distribute the notice to community members. The installation's Public Affairs Office should have an updated mailing list. At the conclusion of the public comment period, the Installation Commander will review public comments, consult with the RAB, EPA, and state, tribal, or local government representatives, as appropriate, prepare a responsiveness summary, and render a recommendation. The Installation Commander will notify the public of the decision.

7. Documenting RAB Activities

Additionally, the installation will document the relevant information on the activities of a RAB in the Administrative Record. These activities will include, but are not limited to:

- Installation's efforts to survey community interest in forming a RAB,
- Steps taken to establish a RAB where there is sustained community interest,
- How the RAB relates to the overall community involvement program, and
- Steps taken to adjourn the RAB.

The records, reports, minutes, appendixes, working papers, drafts, studies, agenda, or other documents that were made available to or prepared for or by each RAB will be available for public inspection and copying at a single, publicly accessible location, such as the information repositories established under the installation's Community Relations Plan, a public library, or in the offices of the installation to which the RAB reports, until the RAB ceases to exist.

To the extent that RAB input is considered in a decision regarding environmental restoration activities, relevant information on the RAB activities will be included in the Administrative Record.

C. Administrative Support, Funding, and Reporting Requirements

1. Administrative Support and Eligible Expenses

a. Administrative Support. The Installation Commander, or if there is no such Commander, an appropriate DoD official, is authorized to pay for routine administrative expenses of a RAB established at an installation (10 U.S.C. 2705(d)(3)). To implement this provision, this proposed rule requires that the installation provide administrative support to establish, operate, and adjourn a RAB, subject to the availability of funds. Securing ongoing administrative support is especially important for closing or closed installations.

DoD proposes to define the scope of activities that are unique to the establishment and operation of RABs, and therefore eligible as a RAB administrative expense.

b. Eligible Administrative Expenses. In order for an activity to be considered as an eligible RAB administrative cost, the activity must be unique to and directly associated with establishing and operating the RAB. For example, an advertisement for a RAB meeting is an eligible RAB administrative cost. However, producing a fact sheet as part of obtaining a hazardous waste storage permit under RCRA or hosting an installation open house as specified by the Community Relations Plan under CERCLA, may not necessarily be relevant to a RAB's mission statement or operations. The costs incurred in preparing and distributing such a fact sheet or holding the open house would not be considered administrative support required for a RAB.

While DoD cannot identify all possible examples of activities unique to and directly associated with establishing and operating a RAB, DoD proposes to consider the following activities as typical of administrative support required for a RAB:

- RAB establishment.
- Membership selection.
- Training if it is unique to and mutually benefits the establishment and operation of a RAB and relevant to the environmental restoration activities occurring at the installation.
- Meeting announcements.
- Meeting facility.
- Meeting facilitators, including translators.
- Meeting agenda materials and minutes preparation.
- RAB-member mailing list maintenance and RAB materials distribution.
- RAB adjournment.

Training for RAB members is considered an eligible administrative cost if it mutually benefits all members of a RAB and is relevant to the environmental restoration activities occurring at the installation. For example, if the installation were to hold an orientation training for members of a RAB, costs incurred in preparing training manuals, slides, or other presentation materials would be considered an allowable administrative expense because such training is mutually beneficial to all members of the RAB. A type of training that would not qualify as a RAB administrative support includes specialized training for an individual member of a RAB, such as an off-site workshop on building leadership capabilities. However, DoD notes that types of training that are not eligible for funding as a RAB administrative expense may qualify and be eligible for funding as technical assistance.

RAB administrative support is for RAB purposes only. RAB administrative expenses do not include general community involvement expenses, such as preparation of public outreach materials, responses to public comment, or repository costs. RAB administrative support does not include efforts to determine community interest in forming a RAB that does not result in the actual formation of a RAB. These items will be categorized as a community involvement expense.

Additional types of expenses ineligible as RAB administrative costs include, but are not limited to:

- Salaries for DoD personnel.
- Dedicated equipment such as computers, software, facsimile machines, telephone lines, or electronic mail for community RAB members.
- Renting dedicated office space for community RAB members.
- Administrative support to community members of the RAB.
- Printed stationery and personal business cards.
- Temporary duty/travel, conference attendance, or fees, except where prior approval has been granted by DoD.
- Compensation to RAB members for meeting attendance, work hours lost, time reviewing and commenting on documents, travel to meetings, or long distance telephone calls.

c. *Funding.* The Secretaries of the Military Departments will make funds available for RAB administrative expenses (10 U.S.C. 2705(g)), subject to the availability of funds. Funds requested for environmental restoration activities that were appropriated to Military Components' ER or BRAC accounts or the ER–FUDS account may be used to provide administrative support to RABs. Such funds will not be used to support the activities of environmental groups or advisory boards in addressing issues other than environmental restoration activities. The Installation Commander is authorized to pay routine administrative expenses of the RABs, in accordance with 10 U.S.C. § 2705(d)(3). The activities of the RAB and expenditures of such funds for administrative expenses will be reported to ODUSD(I&E), at a minimum, on an annual basis.

2. Technical Assistance for Public Participation (TAPP)

Community members of a RAB may request technical assistance from the

private sector to assist their understanding of the scientific and engineering issues underlying eligible DoD environmental restoration activities. Technical assistance may be made available to community members of RABs or TRCs in accordance with 10 U.S.C. 2705(e) and the TAPP regulations found at 32 CFR part 203. RABs may submit TAPP requests to the Installation Commander, or to an appropriate DoD official. The DoD installation may also provide in-house assistance to discuss technical issues.

3. Documenting and Reporting Activities and Expenses

DoD is required to report to Congress on the activities of TRCs and RABs (10 U.S.C. 2706(a)(2)(J)). In order to fulfill this requirement, this proposed rule requires that, where RABs are established, the installation documents the activities of the RAB and tracks expenditures for administrative expenses of the RAB. With regards to tracking expenses, DoD recommends that installations tally costs according to the specific activities identified above (see section IV.C.1.b. of this rule) that are typical of administrative support required for RAB.

Although this proposed rule requires installations to document RAB activities and track expenditures, DoD is not prescribing specific procedures to accomplish this. In addition, DoD will use internal Department and Military Component-specific reporting mechanisms to obtain required information from installations on RAB activities and expenditures when reporting to Congress.

V. Regulatory Analysis

A. Regulatory Impact Analysis Pursuant to Executive Order 12866

Under Executive Order 12866 (58 FR 51735, October 4, 1993), as amended, DoD must determine whether a regulatory action is "significant" and therefore subject to review by the Office of Management and Budget (OMB) and the requirements of the Executive Order.

DoD has determined that this proposed rule is not a "significant regulatory" action because it is unlikely to:

(1) Have an annual effect on the economy of $100 million or more or adversely affect in a material way the economy, productivity, competition, jobs, environment, public health, or safety of state, local, or tribal governments or communities;

(2) Create serious inconsistency or otherwise interfere with an action taken or planned by another agency;

(3) Materially alter the budgetary impact of entitlements, grants, user fees, or loan program or the rights and obligations of recipients thereof; or

(4) Raise novel legal or policy issues arising out of legal mandates, the President's priorities, or the principles set forth in the Executive Order.

B. Regulatory Flexibility Act

It has been certified that this proposed rule is not subject to the Regulatory Flexibility Act of 1980, 5 U.S.C. 601 *et seq.* because it would not, if promulgated, have a significant economic impact on a substantial number of small entities. The primary effect of the proposed rule will be to increase community involvement in DoD's environmental restoration program.

C. Paperwork Reduction Act

It has been certified that the proposed rule does not impose any reporting or recordkeeping requirements subject to the Paperwork Reduction Act of 1995 (Pub. L. 104–13).

VI. Unfunded Mandates

Under section 202 of the Unfunded Mandates Reform Act of 1995, DoD must prepare a statement to accompany any rule where the estimated costs to state, local, or tribal governments in the aggregate, or to the private sector, will be $100 million or more in any one year.

DoD has determined that this proposed rule will not include a federal mandate that may result in estimated costs of $100 million or more to either state, local, or tribal governments in the aggregate, or to the private sector.

List of Subjects in 32 CFR Part 202

Administrative practice and procedure, Environmental protection—restoration, Federal buildings and facilities, Organization and functions (Government agencies).

Title 32 of the Code of Federal Regulations, Chapter I, Subchapter M, is proposed to be amended by adding part 202 to read as follows:

PART 202—RESTORATION ADVISORY BOARDS (RABs)

Subpart A—General Requirements

Authority: 5 U.S.C. 551 *et seq.* and 10 U.S.C. 2705.

Subpart A—General Requirements

§ 202.1 Purpose, scope, definitions, and applicability.

(a) *Purpose.* The purpose of this part is to establish regulations regarding the scope, characteristics, composition, funding, establishment, operation, adjournment, and dissolution of Restoration Advisory Boards (RABs).

(b) *Purpose and scope of responsibilities of RABs.* The purpose of a RAB is to provide:

(1) An opportunity for stakeholder involvement in the environmental restoration process at Department of Defense (DoD) installations. Stakeholders are those parties that may be affected by environmental restoration activities at the installation.

(2) A form for the discussion and exchange of environmental restoration program information between DoD installations, regulatory agencies, tribes and the community.

(3) An opportunity for RAB members to review progress, participate in a dialogue with, and provide comments and advice to the installation's decision makers concerning environmental restoration matters. Installations shall give careful consideration to the comments provided by the RAB members.

(c) *Definitions.* In this section:

(1) *Community RAB member* shall mean those individuals identified by community members and appointed by the Installation Commander to participate in a RAB who live and/or work in the affected community or are affected by the installation's environmental program.

(2) *Environmental restoration* shall include the identification, investigation, research and development, and cleanup of contamination from hazardous substances, and pollutants and contaminants.

(3) *Installation* shall include active and closing Department of Defense (DoD) installations and formerly used defense sites (FUDS).

(4) *Installation Commander* shall include the Commanding Officer or the equivalent of a Commanding Officer at active installations; the Installation Commander or other Military Department officials who close the facility and are responsible for its disposal at Base Realignment and Closure (BRAC) installations; or the U.S. Army Corps of Engineers Project Management District Commander at FUDS.

(5) *Public participants* shall include anyone else who may want to attend the RAB meetings, including those individuals may not live and/or work in the affected community or may not be affected by the installation's environmental program but would like to attend and provide comments to the RAB.

(6) *Stakeholders* are those parties that may be affected by environmental restoration activities at an installation, including family members of military personnel and civilian workers, and tribal community members and indigenous people, as appropriate.

(7) *Tribes* shall mean any federally recognized American Indian and Alaska Native government as defined by the most current Department of Interior/ Bureau of Indian Affairs list of tribal entities published in the Federal Register pursuant to Section 104 of the Federally Recognized Tribe Act.

(8) *RAB adjournment* shall mean when an Installation Commander, in consultation with the Environmental Protection Agency (EPA), state, tribes, RAB members, and the local community, as appropriate, closes the RAB based on a determination that there is no longer a need for a RAB or when community interest in the RAB declines.

(9) *RAB dissolution* shall mean when an Installation Commander disbands a RAB that is no longer fulfilling the intended purpose of advising and providing community input to an Installation Commander and decision makers on environmental restoration projects. Installation Commanders are expected to make every reasonable effort to ensure that a RAB performs its role as effectively as possible and a concerted attempt to resolve issues that affect the RAB's effectiveness. There are circumstances, however, that may prevent a RAB from operating effectively or fulfilling its intended purpose.

(d) *Other public involvement activities.* A RAB should complement other community involvement efforts occurring at an installation; however, it does not replace other types of community outreach and participation activities required by applicable laws and regulations.

(e) *Applicability of regulations to existing RABs.* The regulations in this part apply to all RABs regardless of when the RAB was established.

(f) *Guidance.* The Office of the Deputy Under Secretary of Defense for Environment shall issue guidance regarding the scope, characteristics, composition, funding, establishment, operation, adjournment, and dissolution of RABs pursuant to this rule. The issuance of any such guidance shall not be a precondition to the establishment RABs or the implementation of this rule.

§ 202.2 Criteria for establishment.

(a) *Determining if sufficient interest warrants establishing a RAB.* A RAB should be established when there is sufficient and sustained community interest, and any of the following criteria are met:

(1) The closure of an installation involves the transfer of property to the community;

(2) At least 50 local citizens petition the installation for creation of a RAB;

(3) Federal, State, tribal, or local government representatives request the formation of a RAB; or

(4) The installation determines the need for a RAB. To determine the need for establishing a RAB, an installation should:

(i) Review correspondence files;

(ii) Review media coverage;

(iii) Consult local community members;

(iv) Consult relevant government officials; and

(v) Evaluate responses to communication efforts, such as notices placed in local newspapers.

(b) *Responsibility for forming or operating a RAB.* The installation shall have lead responsibility for forming and operating a RAB.

(c) *Converting existing Technical Review Communittees (TRCs) to RABs.* In accordance with 10 U.S.C. 2705(d)(1), a RAB may fulfill the requirements of 10 U.S.C. 2705(c), which directs DoD to establish TRCs. DoD recommends that, where TRCs or similar advisory groups already exist, the TRC or similar advisory group be considered for conversion to a RAB, provided there is sufficient and sustained interest within the community.

§ 202.3 Notification of formation of a Restoration Advisory Board.

Prior to establishing a RAB, an installation shall notify potential stakeholders of its intent to form a RAB. In announcing the formation of a RAB, the installation should describe the purpose of a RAB and discuss opportunities for membership.

§ 202.4 Composition of a RAB.

(a) *Membership.* At a minimum, each RAB shall include representatives from DoD and the community. RAB community membership shall be well balanced and reflect the diverse interests within the local community.

(1) *Government representation.* The RAB may also include representatives from the EPA at the discretion of the Administrator of the appropriate EPA regional office, and state, tribal, and local governments, as appropriate. At closing installations, representatives of the BRAC Cleanup Team (BCT) may also serve as the government representative(s) of the RAB.

(2) *Community representation.* Community RAB members should live and/or work in the affected community or be affected by the installation's environmental restoration program. While DoD encourages individual tribal members to participate on RABs, RABs in no way replace or serve as a substitute forum for the government-to-government relationship between DoD and federally-recognized tribes.

(b) *Chairmanship.* Each RAB established shall have two co-chairs, one representing the DoD installation and the other the community. Co-chairs shall be responsible for directing and managing the RAB operations.

(c) *Compensation for community members of the RAB.* The community co-chair and community RAB members serve voluntarily; therefore, DoD will not compensate them for their participation.

Subpart B—Operating Requirements

§ 202.5 Creating a mission statement.

The DoD installation co-chair in conjunction with the RAB members shall determine the RAB mission statement in accordance with guidance provided by the DoD Component.

§ 202.6 Selecting co-chairs.

(a) *DoD installation Co-chair.* The DoD installation co-chair shall be selected by the Installation Commander or equivalent, or in accordance with Military Service-specific guidance.

(b) *Community Co-chair.* The Community co-chair shall be selected by the community RAB members.

§ 202.7 Developing operating procedures.

(a) Each RAB shall develop a set of operating procedures. Areas that should be addressed in the procedures include:

(1) Clearly defined goals and objectives for the RAB, as determined by

the DoD installation co-chair in consultation with the RAB.

(2) Meeting announcements.

(3) Attendance requirements of members at meetings.

(4) Development and approval procedures for the minutes of RAB meetings.

(5) Meeting frequency and location.

(6) Rules of order.

(7) The frequency and procedures for conducting training.

(8) Procedures for selecting or replacing co-chairs and selecting, replacing, or adding RAB members.

(9) Specifics on the size of the RAB, periods of membership, and co-chair length of service.

(10) Review and responses to public comments.

(11) Participation of the general public.

(12) Keeping the public informed about proceedings of the RAB.

(13) Discussing the agenda for the next meeting and issues to be addressed.

(b) [Reserved].

§ 202.8 Training RAB members.

Training is not required for RAB members. It may be advisable, however, to provide RAB members with some initial orientation training to enable them to fulfill their responsibilities. Funding for training activities must be within the scope of administrative support for RABs, as permitted in § 202.12.

§ 202.9 Conducting RAB meetings.

(a) *Public participation.* RAB meetings shall be open to the public.

(1) The installation co-chair shall prepare and public a timely publish notice in a local newspaper of general circulation announcing each RAB meeting.

(2) Each RAB meeting shall be held at a reasonable time and in a manner or place reasonably accessible to and usable by persons with disabilities.

(3) Interested persons shall be permitted to attend, appear before, or file statements with any RAB, subject to such reasonable rules or regulations as may be prescribed.

(b) *Nature of discussions.* The installation shall give careful consideration to all comments provided by the individual RAB members.

(c) *Meeting minutes.* The installation co-chair, in coordination with the community co-chair, shall prepare minutes of each RAB meeting.

(1) The RAB meeting minutes shall be kept and shall contain a record of the persons present, a complete and accurate description of matters discussed and comments received, and copies of all reports received, issued, or approved by the RAB. The accuracy of all minutes shall be certified by the RAB co-chairs.

(2) The records, reports, minutes, appendixes, working papers, drafts, studies, agenda, or other documents that were made available to or prepared for or by each RAB shall be available for public inspection and copying at a single, publicly accessible location, such as the information repositories established under the installation's Community Relations Plan, a public library, or in the offices of the installation to which the RAB reports, until the RAB ceases to exist.

§ 202.10 RAB adjournment and dissolution.

(a) *RAB adjournment.* (1) Requirements for RAB adjournment. An Installation Commander may adjourn a RAB when there is no longer a need for a RAB or when community interest in the RAB declines. RABs may adjourn in the following situations:

(i) A record of decision has been signed for all DERP sites on the installation.

(ii) An installation has achieved response complete at all sites and no further environmental restoration decisions are required.

(iii) An installation has all remedies in place.

(iv) The RAB has achieved the desired end goal as defined in the RAB Operating Procedures.

(v) There is no longer sufficient, sustained community interest, as documented by the installation with RAB community members and community-at-large input, to sustain the RAB. The installation shall continue to monitor for any changes in community interest that could warrant reactivating or reestablishing the RAB.

(vi) The installation has been transferred out of DoD control and DoD is no longer responsible for making restoration response decisions.

(2) Adjournment procedures. If the Installation Commander is considering adjourning the RAB, the Installation Commander shall:

(i) Consult with the EPA, state, tribes, RAB members, and the local community, as appropriate, regarding adjourning the RAB and consider all responses before making a final decision.

(ii) Document the rationale for adjournment in a memorandum for inclusion in the Administrative Record, notify the public of the decision through written notice to the RAB members and through publication of a notice in a local newspaper of general circulation, and describe other ongoing public involvement opportunities that are available, if the Installation Commander decides to adjourn the RAB.

(b) *RAB dissolution.* (1) *Requirements for RAB dissolution.* An Installation Commander may recommend dissolution of a RAB when a RAB is no longer fulfilling the intended purpose of advising and providing community input to an Installation Commander and decision makers on environmental restoration projects as described in § 202.1(b).

(2) *Dissolution procedures.* If the Installation Commander is considering dissolving the RAB, the Installation Commander shall:

(i) Consult with EPA, state, tribal and local government representatives, as appropriate, regarding dissolving the RAB.

(ii) Notify the RAB community co-chair and members in writing of the intent to dissolve the RAB and the reasons for doing so and provide the RAB members 30 days to respond in writing. The Installation Commander shall consider RAB member responses, and in consultation with EPA, state, tribal and local government representatives, as appropriate, determine the appropriate action.

(iii) Notify the public of the proposal to dissolve the RAB and provide a 30-day public comment period on the proposal, if the Installation Commander decides to proceed with dissolution. At the conclusion of the public comment period, the Installation Commander will review the public comments, consult with EPA, state, tribal and local government representatives, as appropriate, and render a recommendation.

(iv) Send the recommendation, responsiveness summary, and all supporting documentation via the chain-of-command to the Military Component's Environmental Deputy Assistant Secretary (or equivalent) for approval or disapproval. The Military Component's Environmental Deputy Assistant Secretary (or equivalent) shall notify the Office of the Deputy Under Secretary of Defense (Installations & Environment) (or equivalent) of the decision to approve or disapprove the request to dissolve the RAB and the rationale for that decision.

(v) Document the rationale for dissolution in a memorandum for inclusion in the Administrative Record, notify the public of the decision through written notice to the RAB members and through publication of a notice in a local newspaper of general circulation, and describe other ongoing public involvement opportunities that are

available, once the Military Component's Environmental Deputy Assistant Secretary (or equivalent) makes a final decision.

(c) *Reestablishing an adjourned or dissolved RAB.* An Installation Commander may reestablish an adjourned or dissolved RAB if there is sufficient and sustained community interest in doing so and there are environmental restoration activities still ongoing at the installation. Where a RAB is adjourned and environmental restoration activities continue, the Installation Commander should reassess community interest at least every 24 months. When all environmental restoration decisions have been made and required remedies are in place and properly operating at an installation, reassessment of the community interest for reestablishing the RAB is not necessary. When additional environmental restoration decisions have to be made resulting from subsequent actions, such as long-term monitoring and five-year reviews, the installation will reassess community interest for reestablishing the RAB. Where the reassessment finds sufficient and sustained community interest at previously adjourned RAB, the Installation Commander should reestablish a RAB. Where the reassessment does not find sufficient and sustained community interest in reestablishing the RAB, the Installation Commander shall document in a memorandum for the record the procedures followed in the reassessment and the findings of the reassessment. This document shall be included in the Administrative Record for the installation. If there is interest for reestablishment at a previously dissolved RAB, but the Installation Commander determines that the same conditions exist that required the original dissolution, he or she will request, through the chain of command to the service component deputy assistant secretary, an exception to reestablishing the RAB. If those conditions no longer exist at a previously dissolved RAB, and there is interest in reestablishment the Installation Commander should notify the deputy assistant secretary of the recommendation for the RAB to be reestablished. The deputy assistant secretary will take the Installation Commander's recommendation under advisement and may approve that RAB for reestablishment.

(d) *Public comment.* If the Installation Commander intends to recommend dissolution of a RAB or reestablish a dissolved RAB, the Installation Commander shall notify the public of the proposal to dissolve or reestablish the RAB and provide a 30-day public comment period on the proposal. At the conclusion of the public comment period, the Installation Commander shall review public comments, consult with EPA, and state, tribal, or local government representatives, as appropriate, prepare a responsiveness summary, and render a recommendation. The recommendation, responsiveness summary, and all supporting documentation should be sent via the chain-of-command to the Military Component's Environmental Deputy Assistant Secretary (or equivalent) for approval or disapproval. The Installation Commander shall notify the public of the decision.

§ 202.11 Documenting RAB activities.

The installation shall document information on the activities of a RAB in the Information Repository. When RAB input has been used in decision-making, it should be documented as part of the Administrative Record. These activities shall include, but are not limited to:

(a) Installation's efforts to survey community interest in forming a RAB;

(b) Steps taken to establish a RAB where there is sustained community interest;

(c) How the RAB relates to the overall community involvement program; and

(d) Steps taken to adjourn, dissolve, or reestablish the RAB.

Subpart C—Administrative Support, Funding, and Reporting Requirements

§ 202.12 Administrative support and eligible expenses.

(a) *Administrative support.* Subject to the availability of funding, the installation shall provide administrative support to establish and operate a RAB.

(b) *Eligible administrative expenses for a RAB.* The following activities specifically and directly associated with establishing and operating a RAB shall qualify as an administrative expense of a RAB:

(1) RAB establishment.

(2) Membership selection.

(3) Training if it is:

(i) Unique to and mutually benefits the establishment and operation of a RAB; and

(ii) Relevant to the environmental restoration activities occurring at the installation.

(4) Meeting announcement.

(5) Meeting facility.

(6) Meeting facilitators, including translators.

(7) Preparation of meeting agenda materials and minutes.

(8) RAB-member mailing list maintenance and RAB materials distribution.

(c) *Funding.* Subject to the availability of funds, administrative support to RABs may be funded as follows:

(1) At active installations, administrative expenses for a RAB shall be paid for using funds from the Military Component's Environmental Restoration accounts.

(2) At BRAC installations, administrative expenses for a RAB shall be paid using BRAC funds.

(3) At FUDS, administrative expenses for a RAB shall be paid using funds from the Environmental Restoration account for the Formerly Used Defense Sites program.

§ 202.13 Technical assistance for public participation (TAPP).

Community members of a RAB or TRC may request technical assistance for interpreting scientific and engineering issues with regard to the nature of environmental hazards at the installation and environmental restoration activities conducted, or proposed to be conducted at the installation in accordance with 10 U.S.C. 2705(e) and the TAPP regulations found at 32 CFR part 203.

§ 202.14 Documenting and reporting activities and expenses.

The installation at which a RAB is established shall document the activities and record the administrative expenses associated with the RAB. Installations shall use internal department and Military Component-specific reporting mechanisms to submit required information on RAB activities and expenditures.

Dated: January 19, 2005

Jeannette Owings-Ballard,

Federal Register Liaison Officer, Department of Defense.

[FR Doc. 05–1550 Filed 1–27–05; 8:45 am]

BILLING CODE 3810–01–M

DEPARTMENT OF HOMELAND SECURITY

Coast Guard

33 CFR Part 117

[CGD08–05–003]

RIN 1625–AA09

Drawbridge Operation Regulation; Gulf Intracoastal Waterway, Houma, LA

AGENCY: Coast Guard, DHS.

ACTION: Notice of proposed rulemaking.

February 3, 2005

Hunters Point Shipyard Restoration Advisory Board (RAB)

Dear RAB Members,

There was a resolution introduced by Mr. Maurice Campbell, but was unable to be brought up for a vote at the December 7, 2004 RAB meeting due to quorum. Despite not being able to vote on this resolution, the Navy has decided to take action and respond to the issue in hopes of clearing up any questions or concerns the Board and Mr. Campbell may have. The resolution in question asks to examine the Navy's report, "Final Nonstandard Data Gaps Investigation Landfill Liquefaction Potential Report dated August 13, 2004," and how it compares to the USGS Hazard Zone Map dated November 17, 2000. Liquefaction is a very technical issue and will be addressed in four steps. First, a very broad general definition and description of liquefaction will provide background on this subject and ensure everyone is on the same page. Second, the USGS Hazard Zone Map for the Bay Area dated November 17, 2000, will be briefly explained. Next, the results of the Navy's report, "Final Nonstandard Data Gaps Investigation Landfill Liquefaction Potential Report, August 13, 2004", will be addressed explaining the conclusions and how it compares to the USGS Hazard Zone Map for the Bay Area. Finally, some backup information on liquefaction in the Bay View/Hunters Point area during the 1989 Loma Prieta Earthquake is provided.

STEP 1: What is Liquefaction and Why does it occur?

Liquefaction is a phenomenon where the strength and stiffness of a soil is reduced by earthquake shaking or other rapid loading, such as construction blasting. It occurs in soils in which the space between the individual particles is completely filled with water. The water exerts a pressure on the particles and presses them together. Earthquake shaking causes the pressure exerted on the soil particles by the water to increase. This increase in pressure causes the soil particles to readily move. The following qualitative description of soil liquefaction has been given by Seed and Idriss (1982): "If a saturated sand is subjected to ground vibrations, it tends to compact and decrease in volume; if drainage is unable to occur, the tendency to decrease in volume results in an increase in pore water pressure, and if the pore water pressure builds up to the point at which it is equal to the overburden pressure, the effective stress becomes zero, the sand loses its strength completely, and it develops a liquefied state."

STEP 2: USGS Hazard Zone Map

1 The USGS Hazard Zone Map dated November 17, 2000, is now found in interactive format (included here as an enclosure) through the following USGS link: http://www.abag.ca.gov/bayarea/eqmaps/liquefac/liquefac.html
2 The map represents potential liquefaction risks, as noted by the disclaimer on the map itself, "This map is intended for planning use only, and is not intended to be site-specific. Rather, it depicts the general risk within neighborhoods and the relative risk from community to community."

STEP 3: Final Parcel E Nonstandard Data Gaps Investigation Landfill Liquefaction Potential report dated August 13, 2004

1 This report was completed to determine a very site-specific liquefaction potential to an earthquake at Parcel E-2, in direct response to the possible potential liquefaction shown in the USGS Hazard Zone Maps for the Bay Area.
2 The report concluded that during a 7.9 earthquake Parcel E-2 (the Landfill) may have a lateral shift of only 4-5 feet and a settlement of approximately 10 inches.
3 This amount of lateral shift and settling could cause some small breaches in a containment remedy, but would be quickly and easily repairable. A component of the remedy would need to be an inspection after a seismic event; this would allow for a timely repair to any damage incurred.
4 The overall stability of Parcel E-2, slope stability analysis, and other closure features to prevent lateral movement will be assessed in the Parcel E-2 Remedial Investigation/Feasibility Study Report due out in early summer 2005.

STEP 4: Other Pertinent Information:

1 An article from the National Information Service for Earthquake Engineers at the University of California, Berkley, entitled, "Key Geotechnical Aspects of the 1989 Loma Prieta Earthquake", is included to further explain liquefaction in general as well as specific liquefaction that occurred in the Bay Area during the 1989 Loma Prieta Earthquake.
Note: This report discusses the destruction caused by liquefaction throughout the Bay Area during the 1989 Loma Prieta Earthquake, but goes on to say that liquefaction did not occur in the South San Francisco area and was concentrated on the eastern shore of the bay. Therefore, Hunters Point Shipyard did not experience liquefaction during this earthquake.

I hope this clears up any questions or concerns you have about potential liquefaction at the Landfill on Parcel E-2. If there is any further information that I can give you feel free to contact me. Thank you.

References:

Stewart, Jon, "Key Geotechnical Aspects of the 1989 Loma Prieta Earthquake," National Information Service for Earthquake Engineering, University of California, Berkley.

Seed, H.B., Idriss, I.M. (1982). *Ground motions and soil liquefaction during earthquakes*, Monograph, Earthquake Engineering Research Institute, Berkeley, California.

Very Respectfully,

Keith S. Forman
BRAC Environmental Coordinator
By direction of the Director

Enclosure: (1) California Geological Survey, Seismic Hazard Zones of Required Investigation Map

(2) "Key Geotechnical Aspects of the 1989 Loma Prieta Earthquake" by Jonathan Stewart, National Information Service for Earthquake Engineering, University of California, Berkley.

California Geological Survey Seismic Hazard Zones of Required Investigation

Liquefaction Zones

Areas where historical occurrence of liquefaction, or local geological, geotechnical and ground-water conditions indicate a potential for permanent ground displacements such that mitigation as defined in Public Resources Code Section 2693(c) would be required.

Mapping in progress

Mapping Planned

Area Not Yet Evaluated

Scale: 1 inch equals 0.30 miles

This map is intended for planning use only, and is not intended to be site-specific. Rather, it depicts the general risk within neighborhoods and the relative risk from community to community.

For more detailed information regarding this map, please visit the CGS website at http://gmw.consrv.ca.gov/shmp/

Source:
California Geological Survey, 2004

This map is available at
http://quake.abag.ca.gov

ABAG Geographic Information Systems

nisee *National Information Service for Earthquake Engineering*
University of California, Berkeley

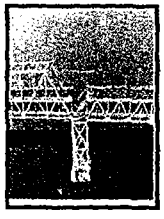
Key Geotechnical Aspects of the 1989 Loma Prieta Earthquake

Jonathan Stewart

Assistant Professor, Civil and Environmental Engineering
UCLA

Introduction

The Loma Prieta Earthquake of October 17, 1989 occurred at 5:05 p.m. (local time) when a segment of the San Andreas fault in the mountains northeast of Santa Cruz, California ruptured over a length of approximately 28 miles (45 km). The Seismographic Station at the University of California, Berkeley determined the earthquake to have a *local magnitude* of ML = 7.0. The location of the fault rupture zone and the earthquake *epicenter* are shown in Fig. 1.



While damage from the Loma Prieta Earthquake was severe in counties near the epicenter, more than 80 percent of the fatalities (50 out of 62 deaths) and 70 percent of the $5.9 billion in monetary losses occurred in San Francisco and Alameda Counties, approximately 50 miles (80 km) from the epicenter. Indeed, some of the most vivid and widely publicized examples of damage were the collapsed section of the Interstate 880 Cypress Street Viaduct in Oakland, the partial collapse of a section of the San Francisco-Oakland Bay Bridge, and the structural failures and fires in the Marina District of San Francisco. (Fig. 2)

Much of the damage to result from the Loma Prieta Earthquake, especially in the central San Francisco Bay area, occurred at sites underlain by thick deposits of soft clayey soils. The concentration of damage in a few distinct areas having these soil conditions resulted from amplification of relatively moderate levels of "bedrock" shaking to much stronger levels of ground surface shaking. This ground motion amplification at "soft" soil sites was the most significant geotechnical aspect of the Loma Prieta Earthquake. Another significant geotechnical feature was a form of ground failure known as *soil liquefaction*. Liquefaction of loose, saturated cohesionless soils in a number of coastal areas near the Monterey and San Francisco Bays caused extensive damage to waterfront facilities, structures, and buried pipelines.

This article will describe some of the lessons that have been learned from the Loma Prieta Earthquake about the important geotechnical phenomena of ground motion amplification in "soft" soils and soil liquefaction. Extensive research has been conducted on both of these topics in the years since the earthquake which has affected the ways engineers design for the effects of earthquakes. This article is only intended to be a cursory introduction to these topics; several reports have been prepared which examine these issues in greater detail such as Seed et al. (1990), Benuska (1990), Baldwin and Sitar (1991), and Borcherdt (1994).

It should also be noted that there are other significant geotechnical aspects to this earthquake which are not discussed here. These include landsliding in hillside areas and coastal bluffs, the performance of geotechnical structures such as earth dams and retaining structures, and the resistance of improved ground to soil liquefaction. Information on these topics can be found in Seed et al. (1990), Harder

(1991), Hudson (1990), and Mitchell and Wentz (1991).

Effects of Local Soil Conditions on Ground Motions

Shown in Fig. 1 are geologic units and *peak ground accelerations* in the central and southern San Francisco Bay and northern Monterey Bay regions. The geologic units are broadly classified as (1) bedrock and stiff, shallow soils, (2) alluvium, and (3) areas near the margins of the San Francisco Bay underlain by a soft marine clay known locally as *Bay Mud*.

The peak accelerations shown in Fig. 1 are seen to be relatively large near the fault rupture zone, and to generally decrease with distance from this zone.

Fig. 3 (Seed et al., 1990) plots the variations of peak ground acceleration with distance from the fault rupture surface for recordings made on different geologic units. It is clear from the figure that the decrease in peak acceleration with distance is significantly less pronounced for "soft" soil sites than for all other site conditions. These relatively high accelerations on soft soil sites occurred in the central San Francisco Bay Area and appear to be the result of localized amplification of seismic waves as they propagate upwards from the bedrock towards the ground surface through soil.

Perhaps the best example of the influence of local soil conditions on ground shaking characteristics is provided by sets of strong motion recordings from two stations on the adjacent Yerba Buena and Treasure Islands in the San Francisco Bay. Yerba Buena Island is a rocky outcrop near the center of the bay which anchors the Bay Bridge.Treasure Island was man-made from loose dredged *hydraulic fill* and is underlain by natural, soft bay sediments. Both islands are approximately 45 miles (72 km) north of the fault rupture surface. Thus, the strong motions recorded at these locations represent a pair of recordings with nearly the same location relative to the fault plane, but for rock and deep soft soil conditions.

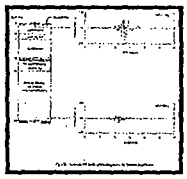
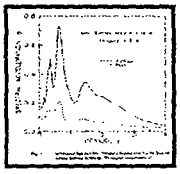


Fig. 4 presents a schematic illustration of the soil column underlying the Treasure Island recording station alongwith the *seismograms* for the N-S direction from the Treasure Island and Yerba Buena sites represented as "soil" and "rock" shaking, respectively.

It is clear from the figure that the Treasure Island record has a significantly higher amplitude of shaking, and a longer *predominant period*. This amplification phenomena can be quantified by examining peak accelerations and *acceleration response spectra*. The three recorded components of shaking had peak accelerations as follow (CSMIP, 1991):

	N-S Comp.	E-W Comp.	Vertical Comp.
Treasure Island	max=0.10g	max=0.16g	max=0.02g
Yerba Buena Island	max=0.03g	max=0.07g	max=0.03g

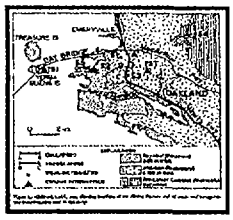


These data illustrate the amplification of shaking in the horizontal directions; no significant amplification typically occurred in the vertical direction. The amplification of Treasure Island motions across a range of periods can be represented by acceleration response spectra as shown in Fig. 5.

In addition to the amplification of peak ground accelerations (i.e. spectral accelerations at T=0), as is shown Fig. 5, deep soft soils at Treasure Island also amplified long-period components of the motion

(i.e. spectral accelerations at T = 1.5 sec).

This amplification of motions at soft soil sites was also evident at a number of other locations in the central San Francisco Bay Area, including Emeryville, Oakland, San Francisco, and portions of the west San Francisco bayshore from South San Francisco to Redwood City.



A large percentage of the significant damage in the central San Francisco Bay Area occurred at sites underlain by soft Bay Mud soils similar to those encountered at Treasure Island. As shown in Fig. 6 the collapsed section of the I-880 Cypress Street Viaduct in Oakland was underlain by 0 to 25 feet of Bay Mud deposits which in turn overlie older and stiffer soils which extend to great depth (> 500 feet). In contrast, the southern section of the viaduct, which was damaged but did not collapse, is underlain by deep alluvium but without surficial Bay Mud deposits. Amplification of shaking through the soft Bay Mud soils at the northern end of the viaduct may have contributed to the collapse. These amplification effects also appeared to affect the patterns of structural damage and ground failure in San Francisco (e.g., the Marina District, Embarcadaro shoreline, old Mission Bay Marsh), Richmond Harbor, the Emeryville and Port of Oakland shorelines, West Oakland, and South San Francisco along the bay shoreline (Seed, et al., 1990).

Studies on site effects conducted since the Loma Prieta earthquake have developed recommendations to guide engineers in their selection of ground motions for use in engineering design (Dickenson, 1994, Borcherdt, 1994, Idriss, 1991). These recommendations enable engineers to estimate ground surface motions given the site condition (i.e., the characteristics of the geologic media underlying the site) and the level of shaking that would be expected "on rock" in the vicinity of the site. Some of these recommendations have been incorporated into building codes (e.g., Building Seismic Safety Council, 1995).

Soil liquefaction occurred over a widespread area including sites as far as 70 miles (112 km) from the epicenter. The principal areas affected were northern and eastern San Francisco, Treasure Island, the east San Francisco bayshore from Richmond to Alameda, Santa Cruz, and the east Monterey Bay region. A detailed discussion of liquefaction and its effects in these regions is provided in Seed et al. (1990), O'Rourke (1992), and Kropp and Thomas (1991). Hence, only a brief summary is presented here.

Liquefaction in the central San Francisco Bay Area (e.g., San Francisco, Treasure Island, Oakland, Emeryville, Alameda) primarily occurred in bayshore fills. These sites typically had 10 to 30 feet of loose, sandy fill which was underlain by deep cohesive soils which amplified ground shaking sufficiently to trigger liquefaction. The extent of liquefaction and its consequences were limited, however, due to the short duration of strong shaking in this earthquake (8 to 10 seconds). Many of these same areas suffered much more severe liquefaction during the 1906 San Francisco Earthquake due to the higher amplitude and longer duration of the shaking during that event.

Strong shaking in the Santa Cruz/East Monterey Bay region produced widespread liquefaction within natural alluvial and coastal beach and dune deposits. However, damage resulting from this ground failure was limited as a result of sparse development in many of the affected areas. Also interesting was the non-occurrence (for the most part) of liquefaction in the south San Francisco Bay Area. Many of the saturated alluvial soils in these areas liquefied during the 1906 San Francisco Earthquake, but the lesser amplitude and duration of shaking in these areas during the Loma Prieta Earthquake was not sufficient to trigger liquefaction again.

One of the principal lessons to be learned from the liquefaction which occurred in the San Francisco Bay

Area during the Loma Prieta Earthquake was that a significant ground failure hazard exposure from future earthquakes remains. This earthquake, which was centered far south of the Bay Area in the Santa Cruz Mountains, represents an inadequate test of the Bay Area's ability to withstand the larger and longer duration shaking sure to occur in future seismic events. However, the technology is available to identify the sites most at risk to liquefaction, and to mitigate against liquefaction hazards (Mitchell and Wentz, 1991). Whether such mitigation actually takes place is a matter of economics and public policy, and many developed areas remain at risk.

Conclusions

This article has presented a brief overview of two key geotechnical aspects of the Loma Prieta Earthquake: ground motion amplification at "soft" soil sites in the central San Francisco Bay Area and soil liquefaction. Much more detail on these topics and other geotechnical aspects of this earthquake are presented in other reports previously cited.

It is important to realize that neither of these geotechnical phenomena which so significantly influenced the damage patterns from the Loma Prieta Earthquake came as a surprise to the geotechnical engineering community. Ground motion amplification effects had been previously observed in the September 19, 1985 Mexico City Earthquake (Seed et al., 1987), and the implications of these effects for the Bay Area had been recognized (Seed and Sun, 1989). Widespread liquefaction had been identified during the 1964 Niigata and Alaska Earthquakes as well the 1971 San Fernando Earthquake, and subsequent research led to analysis procedures capable of predicting the combination of ground shaking and soil conditions under which liquefaction is likely to occur (e.g., Seed et al., 1983).

Though there were few geotechnical surprises from the Loma Prieta Earthquake, it was nonetheless a seminal event. From a geotechnical standpoint, its principal legacies are twofold: (1) it increased public awareness of earthquake hazards in general and of geotechnical factors such as soil liquefaction in particular, and (2) it provided researchers with a significant amount of data on geotechnical phenomena such as site amplification and soil liquefaction, which in turn has prompted studies to improve our analytical capabilities for predicting these effects. This combination of political will and technical knowledge has led to improvements in the ways engineers design structures to resist earthquake loading. However, as subsequent events like the Northridge earthquake in Los Angeles, California and the Hyogoken Nanbu earthquake near Kobe, Japan have illustrated, there remains much to be accomplished before these seismic hazards can be considered to have been appropriately mitigated.

Definitions

Magnitude is a qualitative measure of the energy released by an earthquake.The *local magnitude* is a particular measure defined as the logarithm of the maximum amplitude on a Wood-Anderson torsion seismogram located at a distance of 100 km from the earthquake source (Richter, 1958). (Back)

Earthquakes result from ruptures of the earth's crust along discontinuities, or faults. The rupture has a point of origin called a focus, and then spreads out across a certain area on the fault. The larger the rupture area on the fault, the larger the earthquake magnitude. The *epicenter* is the point on the surface of the earth which is directly above the focus. (Back)

Bray (1995) defines *soil liquefaction* as phenomena resulting when the pore-pressure within saturated particulate media increases dramatically, resulting in a severe loss of strength. The following qualitative description of soil liquefaction has been given by Seed and Idriss (1982): "If a saturated sand is subjected to ground vibrations, it tends to compact and decrease in volume; if drainage is unable to

occur, the tendency to decrease in volume results in an increase in pore water pressure, and if the pore water pressure builds up to the point at which it is equal to the overburden pressure, the effective stress becomes zero, the sand loses its strength completely, and it develops a liquefied state." (Back)

A seismogram is a record of wave vibrations at a point due to earthquake shaking. The seismogram is typically recorded as acceleration vs. time. The *peak ground acceleration* is simply the largest value of acceleration at any time in the seismogram. (Back)

Bay Mud is the local term given to a dark gray, marine estuarine clay or silty clay which is the upper unit of the sediment sequence in the San Francisco Bay. The materials post-date the last glacial sea level drawdown, and are continuing to be deposited. (Back)

The name *"hydraulic fill"* refers to a construction technique by which fill can be placed. In this technique, soil is pumped in hydraulic suspension into an enclosed area and allowed to settle. The soil is typically sand or silty sand, and is characteristically very loose after placement unless some type of compaction of the in-place fill is performed. (Back)

A *seismogram* is a record of wave vibrations at a point due to earthquake shaking.The seismogram is typically recorded as acceleration vs. time. The peak ground acceleration is simply the largest value of acceleration at any time in the seismogram. (Back)

When seismic energy is introduced to geologic materials (or structures), they tend to vibrate at a certain rate which is defined by the *predominant, or fundamental, period.* The period of a wave is the time interval between the passage of two successive points on the waveform (i.e., the time between two successive crests). (Back)

An *acceleration response spectrum* for a given ground motion is a plot of the maximum accelerations induced by the ground motion in single degree-of-freedom oscillators with different periods but the same amount of internal damping. (Back)

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Updated December 8, 1997.
Send comments or questions to EERC Library.

HPS Membership/Bylaws & Community Outreach (MBCO)
Restoration Advisory Board (RAB) Subcommittee
Meeting Minutes for 9 February 2005
6:30-8:00 p.m.
Anna Waden Library

The MBCO RAB subcommittee meeting on February 9, 2005 was called to order by Melita Rines, RAB member and Subcommittee Leader. The subcommittee meeting took place at the Bayview Anna Waden Library from 6:30 to 8:00 p.m.

MBCO Subcommittee attendees: RAB Members – Melita Rines, Keith Tisdell and Barbara Bushnell, Environmental Protection Agency (EPA)- Jackie Lane, SulTech- Carolyn Hunter, Young Community Developers (YCD) - Brian Baltimore.

San Francisco Redevelopment Agency (SFRA) Update:

- Ms. Rines was contacted by Nicole Franklin (SFRA), who reported that SFRA was waiting on the rates from the Navy, and will transmit this information to RAB as soon as it becomes available.

RAB Meeting Attendance:

- Ms. Hunter reported that as of January 2005 all RAB members started out with a "clean slate" on attendance, and at the January RAB meeting, 14 members showed up, and 8 were absent. Ms. Hunter went on to report that the RAB meeting being switched from Thursday, to Wednesday could potentially be the cause of future absences. Mr. Tisdell asked if there should be considerations in regards to the meeting day being switched. Ms. Rines stated that each RAB member will be dealt with on a case by case basis.
- The subcommittee discussed the potential issues the RAB could face should they vote in favor of granting credit on missed attendance on a case by case basis. The issue was put to a vote, and it was unanimously decided that there be no exceptions as determined in the RAB Bylaws, a meeting missed is counted as an absence.
- The MBCO subcommittee agreed to draft and send out a letter to all RAB members inquiring about their intent to continue & serve on the RAB.

Community Outreach Update:

- Ms. Hunter is still looking into community involvement plan activities and will meet with Ms. Lane to discuss this. Ms. Hunter will present activity options to the next subcommittee meeting.
- Ms. Hunter reported that she has been working with Sam Ripley (RAB member) on getting the Hunters Point Shipyard monthly progress reports translated into Samoan. Ms. Hunter and Mr. Ripley are still in discussion on exactly how much information should be translated. Ms. Hunter is also in the process of finding a certified translator for this project.
- Ms. Bushnell stated that she has been contacted by the University of California, San Francisco (UCSF) who has invited the RAB on a tour of their Animal Care Facility located in Parcel E at the Hunters Point Shipyard anytime during the weekday to see

the utility lines construction if anyone is interested. Ms. Hunter agreed to send the RAB an email announcing the UCSF's invitation of providing a construction site tour.

Next Meeting:

The next MBCO subcommittee meeting is scheduled for March 9th, 2005 at 6:30 p.m. at the Anna Waden (Bayview) Library.

MB & CO SUBCOMMITTEE FEBRUARY 2005 ACTION ITEMS

- At the next MBCO subcommittee meeting. The group will discuss community involvement activities that are listed in the Community Involvement Plan to make sure they are being met.
- The MBCO subcommittee agreed to draft and send out a letter to all RAB members inquiring about their intent to continue & serve on the RAB.
- Ms. Hunter agreed to send the RAB an email announcing the UCSF's invitation of providing a construction site tour.

Past SFRA Action Items

- Once SFPD agrees with the term sheet for the sublease of Building 606, they will present it to the MBCO subcommittee for review.

- Ms. Franklin and Captain Dudley agreed to go back to SFRA and SFPD to gain clarification on the agreement made regarding activity on Parcel A.
- During the next MBCO subcommittee meeting SFRA will report back their findings and future steps SFPD will take in order to address the communities concern about activity on Parcel A.

- Ms. Franklin will coordinate an internal SFRA meeting to discuss speeding issues on Innes Avenue and invite interested community members to attend.

Bias In Traditional Risk Assessment Methodology

There are a number of reasons why risk assessments may fail, this paper addresses the concerns about the methodologies of traditional risk assessment, and why they often fail to accurately identify correlation's that may exist, particularly in poor communities and communities of color. There are a number of concerns environmental scientist and scholars have. Hopefully by identifying these issues prior to developing a methodology for the risk assessment of toxins and their effect on the health status of the residents in the Bayview-Hunters Point community, we can avoid some of the mistakes that may have plagued similar research in the past.

There is considerable support for the notion that there exists informational bias within risk assessment as performed by regulatory agencies. In the past this informational bias has resulted from the failure to incorporate a number of critical variables, including information regarding unusual exposure patterns and unusual susceptibilities. As a result the risk assessments tend to distort and hide health effects in communities of color and poor communities, and lead to less than adequate environmental protection for these groups.

To provide a meaningful context to describe our concerns, it would be useful to separate them into two broad categories:

A. Failures of traditional risk assessment because these communities are more likely to be *exposed* to risk.

B. Failures of traditional risk assessment because these communities are more likely to be *susceptible* to risk.

The following table delineates the critical variables and examples of phenomena that traditional risk assessment currently fails to take into consideration. The fact that traditional risk assessment methodology fails to observe these factors is

supported by the views of Ken Sexton in "Environmental Justice: The Role of Research in Establishing a Credible Scientific Foundation for Informed Decision Making"

FAILURES OF TRADITIONAL RISK ASSESSMENT

CATEGORY " A " REASONS: INCREASED EXPOSURE	CATEGORY " B " REASONS: INCREASE SUSCEPTIBILITY
1. Multiple Exposures-- Additive Effects	1. GENETIC DIFFERENCES
2. Chemical Mixtures-- Synergistic Effect	2. DISEASE FREQUENCIES
3. High Exposure to Single Substance	3. SOCIAL INEQUALITIES
4. Other Exposure Problems	4. LIFESTYLE FACTORS

A. Distortions Resulting from Increased Exposure

RISK ASSESSMENT INVOLVES A NUMBER OF EXPOSURE ASSUMPTIONS THAT DILUTE THE SIGNIFICANCE OF ASSESSMENT RESULTS. FOR INSTANCE, CALCULATIONS OFTEN DO NOT ACCOUNT FOR THE DANGERS ASSOCIATED WITH MULTIPLE EXPOSURES, CHEMICAL MIXTURES, ABOVE-AVERAGE EXPOSURE, AND LONG-TERM, SMALL-DOSE EXPOSURE.

WHILE EACH OF THESE PROBLEMS AFFECTS THE POPULATION IN GENERAL, TO THE DEGREE THAT CERTAIN SUBGROUPS ARE MORE HIGHLY EXPOSED TO REGULATED SUBSTANCES, THOSE GROUPS SUFFER

DISPROPORTIONATELY FROM FAILURES OF RISK ASSESSMENT TO ADEQUATELY INCORPORATE EXPOSURE REALITIES. THERE IS ALREADY SUBSTANTIAL EVIDENCE THAT POOR AND MINORITY COMMUNITIES ARE DISPROPORTIONATELY EXPOSED TO REGULATED SUBSTANCES SUCH AS AIR POLLUTANTS, WATER POLLUTANTS[1], HAZARDOUS WASTES[2] AND PESTICIDES[3]. FURTHERMORE, MOST STUDIES SHOW THAT RACE, INDEPENDENT OF ECONOMIC STATUS, IS THE SINGLE MOST RELIABLE PREDICTOR OF EXPOSURE TO POLLUTION.[4]

THERE ARE AT LEAST THREE EXPOSURE-RELATED EXAMPLES OF HOW RISK ASSESSMENT MAY FAIL TO DETECT ADVERSE HEALTH EFFECTS: (1) MULTIPLE EXPOSURES; (2) SYNERGISTIC EFFECTS; AND (3) INCREASED EXPOSURE TO SINGLE SUBSTANCES. FURTHERMORE, ADDITIONAL UNCERTAINTIES WITHIN RISK ASSESSMENT ARE INTRODUCED; THESE INCLUDE THOSE CREATED BY THE BIAS TOWARD OBSERVING CANCER ENDPOINTS AND THE TENDENCY TO EXAMINE ONLY SHORT-TERM EFFECTS OF HIGH DOSES.[5]

1. MULTIPLE EXPOSURES

RISK ASSESSMENT DETERMINES THE PROBABILITY THAT A PERSON EXPOSED TO A PARTICULAR SUBSTANCE WILL EXPERIENCE A GIVEN

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[1]While the demographic data for exposure to water pollutants is less developed than that of air pollutants, there are sufficient indicators to warrant concern that poor and minority communities are disproportionately exposed to water pollutants. See Rebecca L. Calderon et al., *Health Risk from Contaminated Water: Do Class and Race Matter?* , 9 TOXICOLOGY & INDUS. HEALTH 879, 894-95 (1993) ("Despite the sparseness and limitations of the data, the existing data suggest that environmental inequities exist.")

[2]Exposure to hazardous wastes is highly correlated to racial and economic criteria. A number of studies dating back to 1983 demonstrate that both race and income are reliable predictors of proximity to hazardous waste facilities. see, e.g., Mohai & Bryant, supra note 2 (reviewing 18 studies and concluding that race is a factor independent of class in the disproportionate sitting of hazardous facilities).

[3]See generally Marion Moses et al., *Environmental Equity and Pesticide Exposure*, 9 TOXICOLOGY & INDUS. HEALTH 913,914 ("People of color and low-income groups bear a disproportionate share of the potential health risks from exposure to pesticides.")

[4]See generally EPA Equity Report, supra note 12, 2.2.4 (presenting evidence that minority communities are systematically exposed to higher levels of certain air pollutants). Low income is positively correlated with high concentration of the six "criteria" air pollutants regulated by the Clean Air Act: ozone, nitrogen, dioxide, carbon monoxide, sulfur dioxide, particulate matter, and lead. Sexton et al., supra note 94, at 849-50.

[5]Mohai & Bryant, supra note 2, at 166-67 ("Where the distribution of pollution has been analyzed by both income and race and where it was possible to weigh the relative importance of each), in most cases race has been found to be more strongly related to the incidence of pollution.")

ADVERSE HEALTH EFFECT. THE SINGLE SUBSTANCE METHODOLOGY, HOWEVER, FAILS TO ACCOUNT FOR THE MULTIPLE EXPOSURES[6] OCCURRING IN HUNTER'S POINT. THEREFORE, THE ACCEPTABLE RISK LEVEL IS NOT AS CONSERVATIVE AS IT APPEARS BECAUSE THE POPULATION IN FACT HAS MULTIPLE EXPOSURES AND USUALLY TO HUNDREDS OF DIFFERENT SUBSTANCES.

FOR EXAMPLE, GIVEN AN EPA ACCEPTABLE RISK LEVEL OF ONE IN ONE MILLION (10^{-6}) CHANCES OF DEATH, EPA MIGHT SET EMISSION STANDARDS, CLEANUP STANDARDS, AND TECHNOLOGY STANDARDS SUCH THAT EACH SUBSTANCE WOULD EXPOSE PEOPLE TO NO MORE THAN THE AMOUNT WHICH SHOULD CAUSE DEATH IN ONE OUT OF ONE MILLION PEOPLE. ALTHOUGH THIS IS A SEEMINGLY CONSERVATIVE STANDARD, IT IS UNDERMINED BY THE POTENTIAL THAT THE POPULATION IS EXPOSED TO HUNDREDS, IF NOT THOUSANDS, OF REGULATED SUBSTANCES. IF PERSON N IS EXPOSED TO 100 SUBSTANCES AT A LEVEL THAT WOULD CAUSE DEATH IN ONE PERSON PER MILLION (10^{-6}), *N'S* ACTUAL ADDITIVE RISK OF DEATH IS ONE IN TEN THOUSAND (10^{-4}) . $10^{-6} \times 100 = 10^{-4}$

THUS, AN ACCEPTABLE LIFETIME RISK OF 10^{-6} MAY NOT ACTUALLY BE AS CONSERVATIVE AS INTENDED. THIS CALCULATION IS A SIMPLIFICATION WHICH ASSUMES NO OVERLAP IN THE HEALTH EFFECTS CAUSED BY THOSE 100 SUBSTANCES.

THE ADDITIVE EFFECT OF MULTIPLE EXPOSURES POSES A RISK MANAGEMENT AND RISK COMMUNICATION PROBLEM. THE RISK MANAGEMENT CONCERN IS THE ISSUE OF WHETHER POLICY MAKERS SHOULD INCREASE THE STRINGENCY OF REGULATIONS WITH RESPECT TO GROUPS THAT ARE EXPOSED TO INDUSTRIAL SUBSTANCES. THE RISK COMMUNICATION CONCERN ENCOMPASSES THE ETHICAL QUESTION OF PRESENTING SINGLE SUBSTANCE RISK ASSESSMENT INFORMATION TO A COMMUNITY THAT MAY BE EXPOSED TO MULTIPLE SUBSTANCES. WITH OUT QUESTION HUNTERS POINT IS A COMMUNITY OF MULTIPLE EXPOSURES .[7]

WHILE THIS DISTORTION IS IMPORTANT TO THE PUBLIC HEALTH IN GENERAL, SUCH A BIAS MAY HAVE A DISPROPORTIONATE EFFECT IN POOR COMMUNITIES AND COMMUNITIES OF COLOR WHERE EXPOSURE TO MULTIPLE SUBSTANCES TEND TO OCCUR AT A HIGHER FREQUENCY.

RISK ASSESSMENT DATA COLLECTED BY THE STATE AND FEDERAL EPA

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[6]WILLIAM H. HALLENBECK & KATHLEEN M. CUNINGHAM, QUANTITATIVE RISK ASSESSMENT FOR ENVIRONMENTAL AND OCCUPATIONAL HEALTH 3 (1986).

[7]William H. Hallenbeck & Kathlenn M. Cuningham, Quantitative Risk Assessment For Environmental and Occupational Health 3 (1986).

FOR THE GRANTING OF PERMITS TO FACILITIES USING OR EMITTING TOXIC SUBSTANCES HAVE FAILED TO TAKE INTO ACCOUNT THE *CUMULATIVE* AND *SYNERGISTIC EFFECT* OF SO MANY SOURCES OF TOXINS IN ONE COMMUNITY[8]

2. SYNERGISTIC EFFECTS

BECAUSE RISK ASSESSMENT TENDS TO FOCUS ON THE HEALTH EFFECTS OF SINGLE SUBSTANCES, THEY ALSO FAIL TO DETECT THOSE RISKS THAT MAY OCCUR WHEN NUMEROUS CHEMICALS INTERACT[9]. SYNERGISTIC OR INTERACTIVE EFFECTS OCCUR WHEN THE PRESENCE OF ONE COMPONENT ALTERS THE EFFECT OF ANOTHER.[10] THE NEW SUBSTANCE THAT RESULTS FROM THE COMBINATION OF TWO OR MORE COMPONENTS IS A CHEMICAL MIXTURE.[11] THE RESULTING CHEMICAL MIXTURE MAY CAUSE AN ADDITIVE RESPONSE (WHEREBY THE TWO CHEMICALS ACT INDIVIDUALLY)[12], AN ANTAGONISTIC RESPONSE (WHEREBY ONE CHEMICAL PREVENTS A RESPONSE OF ANOTHER CHEMICAL SUCH THAT THE TOTAL RESPONSE IS LESS THAN ADDITIVE EFFECTS)[13], OR A *SYNERGISTIC* RESPONSE (WHEREBY THE TWO CHEMICALS INTERACT TO CAUSE A RESPONSE THAT IS GREATER THAN THE ADDITIVE EFFECTS)[14]. A SYNERGISTIC RESPONSE MAY RESULT IN ONE CHEMICAL[15] AGGRAVATING THE TOXICITY OF ANOTHER CHEMICAL OR IN THE CREATION OF A NEW COMPOUND THAT IS TOXIC IN A MANNER DISSIMILAR TO THAT OF EITHER OF THE COMPONENT CHEMICAL.

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[8]Bullard & Wright, supra note 109, at 835.

[9]Calabrese has observed that,

> [w]hile nearly the entire thrust of public health risk assessment activities has involved derivations for individual compounds, all agree that the real world involves multiple chemical exposures, either concurrently or sequentially. Despite universal agreement on this, regulatory agencies, especially in the environmental domains, have been slow to directly address and specifically incorporate the knowledge of interactions into the risk assessment process.

CALABRESE, MULTIPLE CHEMICAL INTERACTIONS, supra note 63, at 601.

[10]Daniel Krewski et al., *Carcinogenic Risk Assessment of Complex mixtures, in* HEALTH HAZARDS AND RISKS FROM EXPOSURE TO COMPLEX MIXTURES AND AIR TOXIC CHEMICALS supra note 65, at 147, 151.

[11]Risk Assessment of Complex Mixtures And Air Toxic Chemicals supra note 65 Daniel Kreski et.al., Carcinogenic, at 147, 151.

[12]CALABRESE, MULTIPLE CHEMICAL INTERACTIONS, supra note 63, at 13-14.

[13]CALABRESE, MULTIPLE CHEMICAL INTERACTIONS, supra note 63, at 14.

[14]CALABRESE, MULTIPLE CHEMICAL INTERACTIONS, supra note 63, at 14.

[15]For example, consumption of alcohol is thought to enhance the toxicity of carbon disulfide, an industrial solvent. CALABRESE, MULTIPLE CHEMICAL INTERACTIONS, supra note 63, at 487-88.

SYNERGISM OCCURS WHEN, FOR EXAMPLE, "TWO COMPOUNDS, INNOCUOUS BY THEMSELVES, MIGHT INTERACT AT LOW DOSES TO FORM A NEW SUBSTANCE THAT IS TOXIC." [16]

MIXTURES RESULT FROM A NUMBER OF SCENARIOS. OFTEN, COMPLEX MIXTURES ARE THE BY-PRODUCT OF INDUSTRIAL PROCESSES SUCH AS DIESEL EXHAUST[17]. SOMETIMES, MIXTURES ARE INTENTIONALLY CREATED COMMERCIAL PRODUCTS, SUCH AS PCBs, GASOLINE, AND PESTICIDES[18]. HUNDREDS OF CHEMICALS MAY ALSO COMBINE WHEN DISPOSED OF AT A COMMON WASTE SITE[19]. ALTHOUGH NOT MENTIONED IN EPA's CHEMICAL MIXTURE GUIDELINES, A FOURTH SCENARIO FOR CREATION OF CHEMICAL MIXTURES IS THE INTERACTION OF AIR EMISSIONS. FIFTH, THE INTERACTION OF SUBSTANCES THAT HAVE BEEN RELEASED INTO A BODY OF WATER CAN CREATE CHEMICAL MIXTURES[20]. FINALLY, MIXTURES ALSO INCLUDE THE POSSIBLE SYNERGISTIC EFFECTS THAT MAY OCCUR WHEN AN INDIVIDUAL IS SEPARATELY EXPOSED TO INDIVIDUAL SUBSTANCES SUCH THAT THE MIXTURE OCCURS WITHIN THE BODY.

WHILE THERE IS A "PAUCITY OF EMPIRICAL DATA" REGARDING THE HEALTH EFFECTS OF MOST CHEMICAL MIXTURES[21], THE REGULATORY IMPORTANCE OF CONSIDERING SYNERGISTIC EFFECTS IS WIDELY ACKNOWLEDGED.[22] FOR EXAMPLE, THE STATUTORY MANDATE OF THE AGENCY FOR TOXIC SUBSTANCES AND DISEASE REGISTRY (ATSDR) REQUIRES THAT ATSDR " WHERE FEASIBLE... DEVELOP METHODS TO DETERMINE THE HEALTH EFFECTS OF SUCH SUBSTANCES IN COMBINATION WITH OTHER SUBSTANCES WITH WHICH IT IS COMMONLY FOUND."[23] LIKEWISE, EPA IN ITS *GUIDELINES FOR THE HEALTH RISK ASSESSMENT OF CHEMICAL MIXTURES* (MIXTURES GUIDELINES) OBSERVED THAT "SOME POTENTIAL ENVIRONMENTAL HAZARDS INVOLVE SIGNIFICANT EXPOSURES TO A

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[16] NATIONAL RESEARCH COUNCIL, PESTICIDES IN THE DIETS OF INFANTS AND CHILDREN 12 (1993).

[17] Guidelines for The Health Risk Assessment of Chemical Mixtures, 51 Fed. Reg. 34,014,34,015 (1986).

[18] Id.

[19] Id.

[20] See, e.g., Robert R. Vanderslice et al., *Problems in Assessing the Risk of Mixtures of Contaminants in Drinking Water, in* HEALTH HAZARDS AND RISKS FROM EXPOSURE TO COMPLEX MIXTURES AND AIR TOXIC CHEMICALS, supra note 65, at 117 (discussing potential synergistic effects among drink water contaminants).

[21] 51 Fed. Reg. 34,014, 34,016 (1986); see also Krewski et al., supra note 130, at 257 ("The limited number of laboratory studies on joint exposure to chemical carcinogens, however, has not provided a clear indication of the extent to which synergistic effects among carcinogens may occur,").

[22] "Perhaps the most important complication [of evaluating risk of exposure to chemical mixtures] is the potential for interaction among the mixture's constituents, including synergistic effects in which the combined effect of two or more substances is greater than the sum of the effects of each agent alone". Krewski et al., supra note 130, at 147.

[23] 42 U.S.C. 9604(I)(5)(A)(1988).

MIXTURE OF COMPOUNDS THAT MAY INDUCE SIMILAR OR DISSIMILAR EFFECTS".[24]

THE MIXTURE GUIDELINES ARE WORTH EXAMINING IN MORE DETAIL BOTH BECAUSE THEY HAVE ATTRACTED A FAIR AMOUNT OF ATTENTION AND BECAUSE THEY ILLUSTRATE SOME OF THE DIFFICULTIES ASSOCIATED WITH RISK ASSESSMENT. UNFORTUNATELY, LIKE THE SINGLE-SUBSTANCE GUIDELINES, THE MIXTURE GUIDELINES FALL SHORT OF SETTING STANDARDS THAT ADDRESS THE LOW DOSE CUMULATIVE EXPOSURE TO CHEMICAL MIXTURES FREQUENTLY OCCURRING IN MINORITY AND POOR COMMUNITIES.

THE MIXTURE GUIDELINES PROPOSE VARIOUS METHODS FOR ASSESSING THE RISK POSED BY MIXTURES.[25] IN CASES WHERE SUFFICIENT DATA REGARDING THE SPECIFIC MIXTURE OR A SIMILAR MIXTURE ARE NOT AVAILABLE, THE MIXTURE GUIDELINES REQUIRE RISK ASSESSORS TO ASSUME AN ADDITIVE EFFECT.[26] ADDITIVITY MODELS APPLY SIMPLE CUMULATIVE ASSUMPTIONS ABOUT THE EFFECT OF MULTIPLE SUBSTANCES SUCH THAT THE EFFECT OF A MIXTURE INCLUDING CHEMICALS "A" AND "B" IS CONSIDERED TO BE EQUAL TO THE SUM OF RESPONSES ASSOCIATED WITH "A" PLUS "B." THE MIXTURE GUIDELINES ACKNOWLEDGE THE LIMITATIONS OF ADDITIVITY, NOTING THAT IN CASES OF SYNERGISM, ADDITIVITY WILL UNDERESTIMATE RISK.[27] STILL, BECAUSE OF THE LACK OF RELIABLE DATA REGARDING CHEMICAL INTERACTIONS, ADDITIVITY ASSUMPTIONS WILL BE INCORPORATED IN ALMOST ALL CASES.[28]

THIS USE OF ADDITIVITY MODEL TO ESTIMATE RISK MAY HAVE A DISPROPORTIONATE ADVERSE EFFECT IN THE BAY VIEW HUNTER'S POINT COMMUNITY. AS DISCUSSED ABOVE AND AS ACKNOWLEDGED BY EPA, ADDITIVITY FAILS TO ACCOUNT FOR THE POTENTIAL SYNERGISTIC EFFECTS ASSOCIATED WITH COMPLEX MIXTURES. THE GREATER THE NUMBER OF COMPONENT SUBSTANCES THE LESS RELIABLE ARE THE

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[24]51 Fed. Reg. 34,014,34,015(1986)

[25]Id. at 34,016(Table 1).

[26]Id. at 34,021.

[27]Id. EPA cites a classic 1979 study by E.C. Hammond et al. as an example of a synergistic effect. E.C. Hammond et al., Asbestos Exposure, Cigarette Smoking and Death Rates, 330 Annals N.Y. Acad. Sci. 473 (1979) (finding that the relative risk of lung cancer attributable to smoking was 11, to asbestos exposure was 5, and to the combination was 53).

[28]Rita S. Schoeny & Elizabeth Margosches, Evaluating Comparative Potencies: Developing Approaches to Risk Assessment of Chemical Mixtures, in Health Hazards and Risk Form Exposure To Complex Mixtures and Air Toxic Chemicals, supra note 65, at 125, 125.

ADDITIVE RESULTS[29]. SUBSTANTIAL DATA PUT FORTH BY THE ENVIRONMENTAL LAW & JUSTICE CLINIC OF GOLDEN GATE UNIVERSITY SCHOOL OF LAW DEMONSTRATES THAT THERE ARE OVER 400 TOXIC WASTE AND HAZARDOUS SITES IN THE BAYVIEW HUNTER'S POINT COMMUNITY. THEREFORE IT IS MUCH MORE LIKELY THAT THESE RESIDENTS LIVE IN CLOSER PROXIMITY TO TOXIC COMPLEX MIXTURE SOURCES THAN THE REST OF SAN FRANCISCO.

CURRENTLY, THE FEDERAL GOVERNMENT IS CONDUCTING A STUDY TO DETERMINE THE IDENTITY OF THE COMPLEX CHEMICAL MIXTURES PRESENT IN THE HUNTER'S POINT NAVAL SHIPYARD. TWO HUNDRED DEFINITIVE SINGLE-SUBSTANCE CARCINOGENS HAVE BEEN IDENTIFIED. HOWEVER, FIVE MORE YEARS ARE REQUIRED TO COMPLETE THE STUDY TO IDENTIFY WHAT COMPLEX CHEMICAL MIXTURES ARE PRESENT. AS A CONSEQUENCE THE TRUE POTENTIAL ENVIRONMENTAL RISKS TO THE PUBLIC HEALTH ARE UNKNOWN AND NO DEFINITIVE CONCLUSIONS CAN BE DRAWN AT THIS TIME. FURTHER STUDY IS REQUIRED BEFORE ENVIRONMENTAL TOXINS CAN BE RULED OUT AS A SOURCE OF INCREASED ADVERSE HEALTH EFFECTS.

3. INCREASED EXPOSURE TO SINGLE SUBSTANCES

QUANTITATIVE ESTIMATES OF RISK THAT DO NOT ACKNOWLEDGE A RANGE OF POTENTIAL EXPOSURES FAIL TO DETECT DEMOGRAPHIC CORRELATION'S. NOT ONLY WILL GENERALIZED EXPOSURE ASSUMPTIONS DISTORT RISK THAT ARE DISPROPORTIONATELY DISTRIBUTED, BUT SUCH ASSUMPTIONS ARE ALSO INEFFICIENT, LEADING TO REGULATIONS THAT ARE SIMULTANEOUSLY OVER - AND - UNDER- INCLUSIVE.

THIS PHENOMENON OF QUANTITATIVE ESTIMATES OF RISK IS EXEMPLIFIED IN GENERALIZED DIETARY EXPOSURE ASSUMPTIONS. FOR EXAMPLE, IF PESTICIDE *X* IS USED ON AVOCADOS, AN ASSESSMENT OF RISK THAT ASSUMES THAT A CERTAIN AMOUNT OF PESTICIDE *X* IS ACCEPTABLE BASED ON AN ESTIMATE THAT ALL AMERICANS EAT *N* AVOCADO(S) A YEAR FAILS TO PROTECT THOSE WHO EAT MANY MORE AVOCADOS. FOR THE PURPOSE OF REGULATING THE INTAKE OF PESTICIDE *X*, INACCURACIES RESULT FOR ITEMS THAT HAVE INVERSE- BELL CONSUMPTION PATTERNS, SUCH THAT PEOPLE EAT EITHER MANY OR NO

[29] "The Agency and its reviewers agree that as the number of compounds in the mixture increases, an assumption of ADDITIVITY will become less reliable in estimating risk." 51 Fed. Reg. 34,014, 34,024 (1986).

AVOCADOS. CLEARLY, THE USE OF AN AVERAGE BECOME INCREASINGLY MEANINGLESS AS MORE AND MORE PEOPLE ADOPT EXTREME BEHAVIOR.

AMONG ENVIRONMENTAL JUSTICE ADVOCATES, THE MOST FREQUENTLY CITED EXAMPLE OF RISK ASSESSMENT FAILURE CONCERNS CONSUMPTION PATTERNS OF FISH. A NUMBER OF STUDIES CORROBORATE THE CLAIM THAT MINORITY POPULATIONS ARE SIGNIFICANTLY MORE LIKELY TO CONSUME FISH AS A SOURCE OF SUBSISTENCE PROTEIN, WHILE NON-MINORITY PERSONS ARE MORE LIKELY TO CONSUME FISH ON A MORE SPORADIC BASIS[30] FURTHERMORE, MOST RISK ASSESSMENT ASSUME THAT THE POPULATION CONSUMES SKINLESS, TRIMMED FILLETS, YET " THE EVIDENCE SUGGESTS THAT ETHNIC MINORITIES ARE MORE LIKELY TO EAT FISH WITH THE SKIN."[31] THIS DIFFERENCE IS CRITICAL BECAUSE TOXINS IN FISH ARE CONCENTRATED IN THE SKIN AND FATTY TISSUES, NEITHER OF WHICH ARE EATEN AS PART OF A FILLET.[32]

4. OTHER EXPOSURE PROBLEMS

ANY CHARACTERISTIC OF RISK ASSESSMENT THAT TENDS TO UNDERESTIMATE THE RISK OF AN ADVERSE HEALTH EFFECT WILL DISPROPORTIONATELY FAIL TO ADDRESS THOSE WHO ARE DISPROPORTIONATELY EXPOSED. THE PREFERENCE FOR THE USE OF CARCINOGENESIS AS THE ENDPOINT FOR RISK ASSESSMENTS PROVIDES ONE EXAMPLE. CANCER IS OFTEN THOUGHT TO BE THE MOST SENSITIVE HEALTH EFFECT AND THEREFORE AN APPROPRIATE ENDPOINT TO SCREEN FOR ALL POSSIBLE HEALTH EFFECTS. HOWEVER, OTHER HEALTH EFFECTS SUCH AS DEVELOPMENTAL OR REPRODUCTIVE TOXICITY FREQUENTLY RESULT WITHOUT CARCINOGENESIS AND MAY TEND TO GO UNANALYZED.

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[30]See, e.g., Patrick C. West et al., Minority Anglers and toxic fish consumption: Evidence from a Statewide Survey of Michigan, in Race And The Incidence of Environmental Hazards: A Time For Discourse, supra note 1, at 100; see also EPA Equity Report, supra note 12, at 12-15.

[31]EPA Equity Report, supra note 12, at 12.

[32]Edward J. Calabrese, Pollutants And High-Risk Groups: The Biological Basis of Increased Human Susceptibility To Environmental And Occupational Pollutants 150 (1978)[hereinafter Calabrese, High Risk Groups]("Pollutants} are also known to concentrate in the fat tissue of various freshwater fish species such as salmon and trout... People following certain ethnic diets... which involve consuming large amounts of fish as compared with the general population would probably be exposed to higher levels of [pollutants].")

[33] WHILE ALL PERSONS EXPOSED ARE AT RISK, THE LACK OF APPROPRIATE ENDPOINTS MOST PROFOUNDLY AFFECTS THOSE WHO ARE DISPROPORTIONATELY EXPOSED[34].

SIMILARLY, RISK ASSESSMENTS TEND TO FOCUS ON SHORT TERM EXPOSURE TO HIGH DOSES. THE DOSE/RESPONSE APPROACH TO RISK ASSESSMENT THEN EXTRAPOLATES TO LOWER DOSES OVER LONGER DURATION. AGAIN, TO THE DEGREE THAT THESE EXTRAPOLATIONS FAIL TO ACCURATELY DETECT THE EFFECT OF LOW-DOSE EXPOSURES OVER A LONG TERM (E.G., THOSE EXPERIENCED BY PEOPLE LIVING NEAR AN INDUSTRIAL FACILITY LIKE P.G.&E. ON EVANS ST.), THOSE WHO ARE CONTINUOUSLY EXPOSED TO LOW DOSES WILL BE UNDERPROTECTED.[35]

THIS SECTION HAS DEMONSTRATED SOME OF THE POSSIBLE INFORMATIONAL DISTORTIONS OR BIASES WITHIN TRADITIONAL RISK ASSESSMENT. TRADITIONAL RISK ASSESSMENT DOES NOT ACCOUNT FOR THE CUMULATIVE EFFECTS OF MULTIPLE EXPOSURES, NOR DO THEY ACCOUNT FOR THE SYNERGISTIC EFFECTS OF EXPOSURES TO CHEMICAL MIXTURES. RISK ASSESSMENTS GENERALLY INCORPORATE EXPOSURE ASSUMPTIONS, CREATING THE POSSIBLE DISTORTION OF AND INSENSITIVITY TO EXPOSURE PATTERNS THAT FALL OUTSIDE THOSE ASSUMPTIONS.

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[33] See, e.g., Paul A. Locke, Reorienting Risk Assessment, Envtl. F., Sept.-Oct. 1994, at 29 (arguing that current risk assessment practices do not adequately account for non-carcinogenic health effects and that environmental health regulation suffers as a result).

[34] See Ferris, supra note 108, at 2.

[35] Id. at. 7, 151-53. but see Howard Latin, Good Science, Bad Regulation, and Toxic Risk Assessment, 5 Yale J. on Reg. 98-100(1988) (stating that estimates produced by different extrapolation models differ by orders of magnitude and lack an experimental basis for choosing between them).

THE MECHANICS OF RISK ASSESSMENT

1. HAZARD IDENTIFICATION

MOST RISK ASSESSMENTS BEGIN WITH AN EXAMINATION OF THE HEALTH EFFECT OF A SINGLE SUBSTANCE; AD OPPOSED TO A COMBINATION OF SUBSTANCES OR CHEMICAL MIXTURES.[1] ALTHOUGH SINGLE SUBSTANCE RISK ASSESSMENTS ARE INHERENTLY PROBLEMATIC, A NUMBER OF ARGUMENTS SUPPORT THIS APPROACH.

FIRST, SINGLE SUBSTANCE STUDIES PERMIT EASIER GENERALIZATION BECAUSE THEY ALLOW REGULATORS TO REFER TO A COMMONLY ENCOUNTERED SUBSTANCE AS OPPOSED TO A RARELY ENCOUNTERED MIXTURE. SECOND, SINGLE SUBSTANCE ARE LESS EXPENSIVE BECAUSE THEY INVOLVE FEWER BASIC SUBSTANCES THAN COMPLEX MIXTURES.[2]

IN THE CONTEXT OF ENVIRONMENTAL REGULATION, HAZARDS IDENTIFICATION IS CHARACTERIZED BY A QUALITATIVE JUDGMENT THAT EXPOSURE TO A SUBSTANCE CAUSES A DISEASE OR OTHER HEALTH EFFECT. WHILE A PARTICULAR SUBSTANCE MAY BE RESPONSIBLE FOR A NUMBER OF HEALTH EFFECTS, HAZARD IDENTIFICATION ONLY FOCUSES ON ONE OR VERY FEW SUCH EFFECTS.[3] THESE EFFECTS ARE CALLED "ENDPOINTS" AND MAY ENCOMPASS A WIDE VARIETY OF EFFECTS INCLUDING CANCER, REPRODUCTIVE ABNORMALITIES, DEVELOPMENTAL DISORDERS, CENTRAL NERVOUS SYSTEM SYMPTOMS, TRAUMA, INFECTIONS, AND RASHES.[4] CANCER IS OFTEN CHOSEN AS THE ENDPOINT FOR A GIVEN RISK ASSESSMENT BECAUSE IT IS EASY TO IDENTIFY,[5]IT DEMANDS THE BULK OF PUBLIC CONCERN, AND IT TENDS TO BE THE MOST SENSITIVE ENDPOINT MAKING IT A

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[1]Edward J. Calabrese, Multiple Chemical Interactions 601 (1991) (hereinafter Calabrese, Multiple chemical Interactions); see also Diane K. Wagener et al., Equity in Environmental Health: Data Collection and Interpretation Issues, 9 Toxicology & Indus. Health 775, 783 (1993) (" Data systems that compile information on pollutant concentrations in the environment are generally focused on single, or simple, forms of pollutants; complex mixtures are not assessed due to limitation of cost and proper procedures.")

[2] For example, the authors of a recent study which examined interdisciplinary approaches to study risk conclude that " toxicological studies of chemical mixtures are essential for understanding human risk in today's environment [S]ince the Clean Air Act requires regulation of individual chemicals, we designed this research program to address individual chemicals and simple mixtures." E.C. Grose et al., Interdisciplinary Approach to Assessing the Health risk of Air Toxic Chemicals: An Overview, in Health Hazards and Risks From Exposure To Complex Mixtures and Air Toxic Chemicals 39,47 (M.A. Mehlman ed., 1991).

[3]Needleman, supra note 9, at 10.

[4]DHHS, supra note 9, at 10.

[5]Bardara L. Berney & Jack Needleman, Setting Priorities for Risk Assessment, in Assessing Risk To Health, supra note 20, at 247, 247-50. The relative ease of identifying cancer is especially evident with respect to lead, where the contending endpoint is central nervous system and effects which the contending endpoint is central nervous system and behavior effects which are particularly difficult to measure. Likewise, reproductive effects are difficult to measure in large part because of the number of different endpoints such as "sperm changes, ovarian cycle changes and menstrual disorders, sexual dysfunction, spontaneous abortion, birth defects, ect." Id. at 250.

SAFETY NET FOR OTHER POSSIBLE ENDPOINTS. [6]TO THE EXTENT THAT CARCINOGENESIS IS NOT THE MOST SENSITIVE ENDPOINT OF A PARTICULAR SUBSTANCE, HOWEVER, RISK ASSESSMENTS THAT RELY ON THE IDENTIFICATION OF CANCER MAY FAIL TO NOTICE OTHER ADVERSE HEALTH EFFECTS.[7] THOUGH HAZARD IDENTIFICATION CONSISTS ONLY OF THE QUALITATIVE DETERMINATION OF CAUSATION, IT IS NONETHELESS AN EXHAUSTIVE PROCEDURE. UPON REVIEWING ALL OF THE EVIDENCE, AN AGENCY THEN EVALUATES AND INTERPRETS THE WEIGHT OF THE EVIDENCE— OFTEN WITH GUIDELINES[8]—TO CONCLUDE WHETHER OR NOT AN ADVERSE HEALTH EFFECT EXISTS AS A RESULT OF THE SUBSTANCE.

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[6]For example, cancer is thought to be the most sensitive endpoint for Tris (2,3-dibromopropyl) phosphate, ethylene dibromide, dioxin, and formaldehyde. Berney & Needleman, supra note 68, at 249.

[7]As a number of scientists have observed, [o] nce a chemical is identified as a potential carcinogen, non-cancer studies often are not pursed, even though the compound may be a toxicant in other respects. It is conceivable that a chemical with a low cancer unit risk might be a potent teratogen, but without a multidisciplinary approach, this will never be known. grose et al., supra note 65, at 47.

[8]EPA has explained specific criteria for determining the weight to be given to a study and issued instructions for identifying uncertainties and weakness in the literature. Id. at 33,996.

DISTORTION RESULTING FROM INCREASED SUSCEPTIBILITY

RISK ASSESSMENTS HAVE GENERALLY FAILED TO EXAMINE SUSCEPTIBILITY AS A FUNCTION OF RACE, ETHNICITY, AND INCOME.[1] FOR EXAMPLE, EPIDEMIOLOGICAL STUDIES USED IN REGULATORY RISK ASSESSMENTS INVOLVE STUDIES ON THE GENERAL WORK FORCE, INVOLVING MOSTLY HEALTHY WHITE MALES.[2] TO THE DEGREE THAT SUBGROUP SUSCEPTIBILITIES ARE CONSIDERED, HEALTH ASSESSMENTS TRADITIONALLY EXAMINE AGE, GENDER, AND A HANDFUL OF DISEASE GROUPS SUCH AS ASTHMATICS.[3] UNFORTUNATELY, SUCH ASSESSMENTS TEND NOT TO PROVIDE ANY RACIAL OR ECONOMICS EXAMPLES OF SUBGROUPS CONSIDERATIONS.[4]

YET, THERE IS SUBSTANTIAL EVIDENCE SUGGESTING RELEVANT SUSCEPTIBILITIES IN MINORITY AND POOR COMMUNITIES.[5] AS DISCUSSED BELOW, GROUP SUSCEPTIBILITY TO POLLUTANTS MAY BE AFFECTED BY THE FOLLOWING: (1) GENETIC CHARACTERISTICS; (2) DISEASE FREQUENCIES; (3) SOCIAL INEQUALITIES INCLUDING ACCESS TO HEALTH CARE, UNEMPLOYMENT RATES, AND EDUCATIONAL LEVELS; AND (4) LIFESTYLE FACTORS SUCH AS SUBSTANCE ABUSE AND NUTRITIONAL DEFICIENCIES.[6]

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[1]EPA *Equity Report*, supra note 12, at 33-34.

[2]EPA *Equity Report*, supra note 12, at 33-34.

[3]For instance, in its *Environmental Equity* report, EPA stated that

[w]hen the Agency does have information about the susceptibility of certain subgroups in the population, this information is taken into account in the risk assessment. For example, children have been specially singled out as being at risk from exposure to lead. The elderly are sensitive to carbon monoxide, and particulate matter exposure. Asthmatics are a sensitive subgroup for sulfur oxides. There are other examples where health information for special population groups is key to the risk assessment finding and examples where such focus is not achievable.

EPA *Equity Report*, supra note 12, at 33-34.

[4]EPA *Equity Report*, supra note 12, at 33-34.

[5]See generally *Edward J. Calabrese, Ecogenetics: Genetic Variation In Susceptibility To Environmental Agents* (1984)[hereinafter *Calabrese, Ecogenetics*](analyzing the effect of genetic factors on the outcome of environmentally induced disease); *Calabrese, High-Risk Groups*, supra note 155 (identifying and quantifying hypersusceptible population segments with respect to pollutant toxicity and biological factors, genetic disorders, nutritional deficiencies, disease process, and behavior); *Richard Rios et al., Susceptibility to Environmental Pollutants Among Minorities, 9 Toxicology & Indus. Health 797 (1993)* (examining biological susceptibility of minorities to environmental pollutants in general and also providing specific examples).

[6]Of course, for many these variables the appropriate response is not to fix the risk assessment, but rather to fix the underlying susceptibility. See, e.g., *Calabrese, High-Risk Groups*, supra note 155, at 174 -75 (suggesting nutritional supplementation programs to increase adaptive capacity to environmental pollutants).

1. GENETIC CHARACTERISTICS

A HIGH PERCENTAGE OF CERTAIN SUBGROUPS HAVE A GENETIC RED BLOOD CELL DEFICIENCY RELATED TO THE ENZYME, GLUCOSE-6-PHOSPHATE DEHYDROGENASE (G-6-PD).[7] IT IS FOUND IN 16% OF AFRICAN AMERICAN MEN, 12-13% OF FILIPINOS, AND 11% OF MEDITERRANEAN JEWS.[8] THE G-6-PD DEFICIENCY IS ASSOCIATED WITH INCREASED SUSCEPTIBILITY TO THE TOXIC EFFECTS OF OZONE, COPPER, CHLORITE, AND OTHER ENVIRONMENTAL AND OCCUPATIONAL POLLUTANTS.[9] EDWARD CALABRESE REFERS TO THIS RED BLOOD CELL DEFICIENCY AS A PARADIGMATIC EXAMPLE OF THE RELATIONSHIP BETWEEN RISK REGULATION AND SUSCEPTIBLE SUBGROUPS.[10] HE ARGUES THAT THIS COMBINATION OF SUBGROUP SUSCEPTIBILITY WITH AN ENVIRONMENTAL POLLUTANT CREATES A SITUATION IN WHICH "A HIGH LEVEL OF ENVIRONMENTAL STRESS (OZONE) IS IN AN AREA INHABITED BY THOSE LEAST CAPABLE OF SUSTAINING SUITABLE HOMEOSTATIC-COMPENSATORY RESPONSES TO OFFSET THE STRESS."[11] CALARESE ALSO NOTES THE ABSENCE OF ADEQUATE QUANTITATIVE RISK ASSESSMENTS AND THE "NEARLY TOTAL LACK OF EPIDEMIOLOGICAL STUDIES DESIGNED TO ASSESS THE IMPACT OF INDUSTRIAL AND ENVIRONMENTAL OXIDANTS IN G-6-PD DEFICIENT."[12]

OTHER GENETIC CHARACTERISTICS CORRELATED TO ETHNICITY MAY INCREASE SUSCEPTIBILITY TO ENVIRONMENTAL EXPOSURES. SICKLE-CELL ANEMIA AND SICKLE-CELL TRAIT, WHICH AFFECT ALMOST EXCLUSIVELY AFRICAN AMERICANS, MAY INCREASE SUSCEPTIBILITY TO BENZENE, LEAD, CADMIUM, AND CARBON MONOXIDE, AMONG OTHER COMPOUNDS.[13] ALCOHOL DEHYDROGENASE VARIANCE, ESTIMATED TO OCCUR 70% OF THE JAPANESE POPULATION AND 20% OF THE SWISS POPULATION, IS ASSOCIATED WITH A FASTER THAN NORMAL METABOLIZATION OF ALCOHOL-RELATED SUBSTANCES, SUCH AS ETHANOL.[14]

FURTHERMORE, REPEATED EXPOSURE TO CERTAIN TOXICANTS MAY CAUSE GENETIC CHARACTERISTICS THAT INCREASE SUSCEPTIBILITY. WHILE LITTLE IS KNOWN ABOUT THIS CONDITION, SOMETIMES CALLED" CHEMICALLY INDUCED HYPERSENSITIVITY,"[15] SOME OBSERVERS SUGGEST THAT MINORITY POPULATIONS

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[7] *Calabrese, Ecogenetics*, supra note 169, at 29.

[8] *Calabrese, Ecogenetics*, supra note 169, at 29.

[9] *Calabrese, Ecogenetics*, supra note 169, at 18-27, 323 ("G-6-PD deficiency has a demonstrable causal history of enhancing one's susceptibility to industrial pollutants.")

[10] *Calabrese, High-Risk Group*, supra note 155, at 197 ("A clear illustration of this situation [high-risk groups] is seen in cities that have a high ozone concentration and a large number of blacks with the G-6-PD deficiency.")

[11] *Calabrese, High-Risk Group*, supra note 155, at 197.

[12] *Calabrese, Ecogenetics*, supra note 169, at 30.

[13] Calabrese, Ecogenetics, supra note 169, at 41 (emphasizing that despite suspicion, the evidence with respect to the increased susceptibility of those with sickle-cell trait is inconclusive).

[14] Calabrese, Ecogenetics, supra note 169, at 326.

[15] Rios et al., supra note 169, at 802. The very existence of chemically induced susceptibility, not to mention its prevalence, is widely controverted. See e.g., American Council on Science and Health, MCS: Multiple Chemical Sensitivity 27 (concluding that multiple chemical sensitivity is scientifically unsupported, unrecognized by the mainstream medical community and largely based on "junk" science). But see William Rea, Chemical Sensitivity: Principles And Mechanisms (1992) (providing a detailed

ARE MORE LIKELY TO BE EXPOSED TO THE PARTICULAR TOXICANTS ASSOCIATED WITH CAUSING THE DISORDERS.[16]

2. DISEASE FREQUENCIES

DISEASE FREQUENCIES DIFFER ACCORDING TO RACIAL, ETHNIC, AND SOCIOECONOMIC FACTORS[17] AND MAY AFFECT SUSCEPTIBILITY TO THE EFFECTS OF EXPOSURE TO ENVIRONMENTAL CONTAMINANTS.[18] ACCORDING TO THE UNITED STATES DEPARTMENT OF HEALTH AND HUMAN SERVICES, AFRICAN AMERICANS ARE MORE LIKELY TO SUFFER FROM HYPERTENSION AND ARE LESS LIKELY TO RECEIVE MEDICATION THAN THE GENERAL POPULATION WITH HYPERTENSION. [19] SOME RESEARCH HAS SUGGESTED A CORRELATION BETWEEN HYPERTENSION AND SUSCEPTIBILITY TO ADVERSE EXPOSURES.[20] FOR EXAMPLE, HYPERTENSION MAY CONTRIBUTE TO THE DEVELOPMENT OF KIDNEY DISEASE. SINCE THE KIDNEY IS RESPONSIBLE FOR FILTERING TOXIC SUBSTANCES FROM THE BLOOD, HYPERTENSION-INDUCED KIDNEY DISEASE MAY REDUCE THE BODY'S ABILITY TO REACT TO TOXIC EXPOSURES.[21]

IN ADDITION TO HYPERTENSION, OTHER DISEASES THAT OCCUR MORE FREQUENTLY IN MINORITY COMMUNITIES CAN CAUSE AN INCREASE IN SUSCEPTIBILITY TO VARIOUS TOXICANTS. DIABETES, FOR EXAMPLE, REDUCES THE BODY'S CAPACITY TO DETOXIFY ORGANIC SOLVENTS BECAUSE OF METABOLIC IMPAIRMENTS

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model supporting the theory of multiple chemical sensitivity); Linda Lee Davidoff, Multiple Chemical Sensitivities, *Amicus J. (nat. resources Def. Council)*, Fall 1989, at 12 (discussing the possibility that multiple chemical sensitivity is widely prevalent). For an excellent, more balanced, discussion of the possibility that chemical exposure may suppress the body's immune system and thus increase susceptibility, see Michael I. Luster et al., Chemical Pollutants and "Multiple Chemical Sensitivities," in Phantom risk: Scientific Inference and The Law 379 (Kenneth R. Foster et al. eds., 1993))presenting data showing the existence of chemically induced sensitivities while also articulating the tremendous scientific uncertainties surrounding environmentally related hypersensitivities in general).

[16]Rios et al., supra note 169, at 802 (citing George Friedman-Jimenez, Occupational Disease Among Minority Workers: A Common and Preventable Public Health Problem, 37 Am. Ass'n Occupational Health Nurses J. 64 (1989)).

[17]See generally A.P. Polednak, Racial and Ethnic Differences in Disease (1989) (discussing variations in disease frequencies occurring among various racial, ethnic and socioeconomic groups); Robert W. Miller, Epidemiologic Evidence for Genetic Variability in the Frequency of Cancer: Ethnic Differences, in Phenotypic Variations in Populations: Relevance to Risk Assessment, supra note 164, at 65.

[18]Rios et al., supra note 169, 808-10.

[19]Rios et al., supra note 169, at 808(citing U.S. Dep't of Health & Human Services, Report of The Secretary's Task Force on Black And Minority Health 1, 4 (1986).

[20]Rios et al., supra note 169, at 808 (discussing some studies which indicated that exposure to cadmium may induce high blood pressure, exacerbating health problems caused by hypertension) (citing Henry A. Schroeder, Cadmium as a Risk Factor in Hypertension, 18 J. Chron. Dis. 647 (1965) and Henry A. Schroeder, The Role of Trace Metals in Cardiovascular Diseases, 58 Med. Clinics N. Am. 381 (1974)).

[21]Rios et al., supra note 169, 808.

RESULTING FROM DECREASED CARDIOVASCULAR FUNCTIONING.[22] WHILE THIS VULNERABILITY SHOULD BE ACCOUNTED FOR IN RISK ASSESSMENT IN GENERAL, IT IS NECESSARY TO NOTE THAT DIABETES OCCURS MORE FREQUENTLY AMONG NATIVE AMERICANS, AFRICAN AMERICANS, AND HISPANICS.[23] SIMILARLY, LIVER DISEASE, WHICH INCREASES SUSCEPTIBILITY TO PESTICIDES, POLY-CHLORINATED BIPHENYLS, METALS, AND HYDROCARBONS, OCCURS MORE FREQUENTLY IN MINORITY COMMUNITIES.[24] TUBERCULOSIS, WHICH ADVERSELY AFFECTS THE LUNG'S ABILITY TO ELIMINATE PARTICULATES, IS MORE COMMON AMONG ASIANS, AFRICAN AMERICANS, AND HISPANICS.[25] FINALLY, ASTHMA INCREASES THE BODY'S SUSCEPTIBILITY TO POLLINATES AND IS MORE COMMONLY FOUND AND LESS OFTEN TREATED AMONG AFRICAN AMERICANS.[26]

3. SOCIAL INEQUALITIES

CIRCUMSTANCES OF SOCIAL INEQUALITY CAN ADVERSELY AFFECT SUSCEPTIBILITY TO ENVIRONMENTAL HEALTH HAZARDS. ONE CONSEQUENCE OF BOTH OVERT AND INSTITUTIONAL RACISM, FOR EXAMPLE, HAS BEEN ITS INDEPENDENT ADVERSE HEALTH IMPACT WHICH IN TURN AFFECTS SUSCEPTIBILITY TO ENVIRONMENTAL POLLUTANTS.[27] A LACK OF POLITICAL POWER AND ACCESS TO INFORMATION MAY HAVE THE MOST PROFOUND EFFECT ON SUSCEPTIBILITY BECAUSE WITH IT COMES AN INABILITY TO EFFECT CHANGE AND THEREBY LESSEN EXPOSURE TO HARMFUL SUBSTANCES.

LOW-INCOME POPULATIONS GENERALLY HAVE LESS ACCESS TO CONSISTENT AND PREVENTATIVE HEALTH CARE, INCLUDING ADEQUATE CHILD CARE.[28] RACE IN

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[22]Rios et al., supra note 169, at 808; see also Calabrese, Ecogenetics, supra note 169, at 243-44 (describing study on rats which demonstrated that a diabetic state increases the hepatotoxicity of organic solvents).

[23]Rios et al., supra note 169, at 809 (citing Indian Health Service, U.S. Dep't of Health & Human Services, Trends in Indian Health 1991 (1991); U.S. Dep't of Health & Human Services, Health Status of Minorities and Low Income Groups(3d ed. 1991); and U.S. Dep't of Health & Human Services, Report of The Secretary's Task Force on Black and Minority Health 1, 7 (1986)).

[24]Rios et al., supra note 169, at 809 (citing Calabrese, Ecogenetics, supra note 169).

[25]Rios et al., supra note 169, at 809 (citing Centers for Disease Control, Tuberculosis in Blacks, 36 Morbidity & Mortality Wkly Rep. 212 (9187)); Centers for Disease Control, Tuberculosis-- United States, 1985, 35 Morbidity & Mortality Wkly. Rep. 699 (1989); and J.A. Jereb et al., Tuberculosis Morbidity in the United States: Final Data, 1990, 40 Morbidity & Mortality Wkly. Rep. 23 (1991)).

[26]Rios et al., supra note 169, at 809 (citing Centers for Disease Control, Asthma-- Untied States, 1980-1987, 39 Morbidity & mortality Wkly. Rep. 493 (1990)).

[27]Joan Borysenko, Psychophsiological Variables, in Variation in Susceptibility To Inhaled Pollutants, supra note 164, at 295, 298-301 (arguing that "psychological factors affected by the psychosocial climate must be considered as seriously as biological risk factors in predicting disease susceptibility as biological risk factors in predicting disease susceptibility").

[28]Rios et al., supra note 169, at 813 (citing U.S. Dep't of Health & Human Services, Health Status of Minorities And Low Income Groups (3d ed. 1992)).

PARTICULAR MAY ALSO AFFECT HEALTH CARE IN THAT SOME STUDIES HAVE SHOWN THAT MINORITIES FREQUENTLY RECEIVE A LOWER QUALITY OF CARE.[29]

LOW INCOME IS ALSO CORRELATED WITH POOR NUTRITION, INCLUDING INSUFFICIENT INTAKE OF PROTEINS AND VITAMINS.[30] AS EDWARD CALABRESE HAS DEMONSTRATED, NUTRITIONAL DEFICIENCIES AND SUSCEPTIBILITIES TO ENVIRONMENTAL POLLUTANTS HAVE A DISTINCT RELATIONSHIP.[31] FOR INSTANCE, VITAMIN C DEFICIENCY IS ASSOCIATED WITH INCREASED VULNERABILITY TO LEAD, BENZENE, INSECTICIDES, CARBON MONOXIDE, OZONE, AND SULFATES.[32] SIMILARLY, PROTEIN DEFICIENCY IS ASSOCIATED WITH INCREASED VULNERABILITY IT INSECTICIDES AND INDUSTRIAL SOLVENTS; CALCIUM DEFICIENCY IS ASSOCIATED WITH AN INCREASED SENSITIVITY TO HYDROCARBON CARCINOGENS, LEAD, AND MANGANESE.[33]

FINALLY, INADEQUATE EDUCATION AND POOR ENGLISH SKILLS AMONG SOME MINORITY POPULATIONS UNDERMINE THE COMMUNICATION NECESSARY TO FACILITATE ENVIRONMENTAL PROTECTION.[34] LACK OF INFORMATION REGARDING RISKY SUBSTANCES, SAFETY PRECAUTIONS, AND REGULATORY SAFEGUARDS IS LIKELY TO AFFECT BOTH SUSCEPTIBILITY AND EXPOSURE TO HARMFUL SUBSTANCES.

4. LIFESTYLE FACTORS

IN ADDITION TO GENETIC CHARACTERISTICS, DISEASE FREQUENCIES, AND SOCIAL INEQUALITIES, LIFESTYLE FACTORS IN SOME CIRCUMSTANCES MAY ADVERSELY AFFECT MINORITY POPULATIONS. FOR EXAMPLE, BECAUSE THE BIRTH RATE AMONG MANY MINORITY GROUPS IS HIGHER THAN THAT OF THE GENERAL POPULATION,[35] MINORITY POPULATIONS HAVE LARGER PERCENTAGES OF CHILDREN AND PREGNANT WOMEN. THEREFORE, BECAUSE PREGNANT WOMEN, CHILDREN, INFANTS, AND FETUSES ARE MORE SUSCEPTIBLE TO ADVERSE HEALTH EFFECTS FROM POLLUTANTS THAN ARE MEMBERS OF THE REMAINDER OF THE

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[29]Rios et al., supra note 169, at 813 (citing Centers for Disease Control, Tuberculosis in Blacks, 36 Morbidity & Mortality wkly. rep. 212 (1987)).

[30]See, e.g., Jean Mayer, HUNGER AND UNDERNUTRITION IN THE UNITED STATES, 120 J. NUTRITION 919, 920-22 (1990).

[31]Calabrese, HIGH-RISK GROUPS, supra note 155, at 93-114; see also Laure N. Kolonel, Variability in diet and its Relation to Risk in Ethnic and Migrant Groups, in PHENOTYPIC VARIATION IN POPULATIONS: RELEVANCE TO RISK ASSESSMENT, supra note 164, at 129 (suggesting that diet accounts for a large part of the observed variations in cancer incidence among ethnic groups in Hawaii).

[32]CALABRESE, HIGH-RISK GROUPS, supra note 155, at 96-101 (pointing out that the subgroup prevalence of vitamin C deficiency is uncertain, thought at least one study suggests that low income is positively correlated with such a deficiency).

[33]CALABRESE, HIGH-RISK GROUPS, supra note 155, at 191-92.

[34]RIOS et al., supra note 169, at 814.

[35]RIOS et al., supra note 169, at 811 (citing U.S. Dep't of Health & Human Services, Health Status of Minorities and Low income Groups (3d ed. 1991)).

POPULATION,[36]EXPOSURE TO POLLUTANTS WILL DISPROPORTIONATELY AFFECT MINORITY COMMUNITIES.

FINALLY, STUDIES INDICATE THAT MINORITY AND LOW-INCOME POPULATIONS, REGULARLY TARGETED BY ALCOHOL AND TOBACCO ADVERTISING CAMPAIGNS,[37] USE THESE PRODUCTS WITH GREATER FREQUENCY THAN DOES THE GENERAL POPULATION[38]. JUST DRIVE DOWN 3D STREET AND STOP AND LOOK AT THE ADVERTISING ON THE STREET. SUCH SUBSTANCE ABUSES ARE ASSOCIATED WITH INCREASED SUSCEPTIBILITY TO TOXIN CHEMICALS BY CREATING IMPAIRED RESPIRATORY, CARDIOVASCULAR, AND METABOLIC PROCESSES.[39]

INDIVIDUALS MAY DIFFER IN VULNERABILITY TO CHEMICAL SUBSTANCES AS A RESULT OF GENETIC CHARACTERISTICS, DISEASE FREQUENCIES, SOCIETAL INEQUALITIES, AND LIFESTYLE PATTERNS WITH IN SUBGROUPS.

THE THEORETICAL FOUNDATION SUPPORTING THE CLAIM THAT THE PRACTICE OF RISK ASSESSMENT CONTAINS AN INFORMATIONAL BIAS THAT SYSTEMATICALLY DISCRIMINATES AGAINST POOR COMMUNITIES AND COMMUNITIES OF COLOR. AS DETAILED IN THIS PAPER, THIS BIAS RESULTS FROM A FAILURE TO INCORPORATE INFORMATION REGARDING EXPOSURE TO MULTIPLE CHEMICALS, CHEMICAL MIXTURES, ABOVE-AVERAGE EXPOSURE, AS WELL AS INFORMATION REGARDING INCREASED SUSCEPTIBILITY TO CHEMICALS.

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[36]RIOS et al., supra note 169, at 811 (citing EDWARD J. CALABRESE, AGE AND SUSCEPTIBILITY TO TOXIC SUBSTANCES (1986); and CALABRESE, HIGH-RISK GROUPS, supra note 152); A. Jane Warren & Shelly Weinstock, *Age and Preexisting Disease*, in VARIATIONS IN SUSCEPTIBILITY TO INHALED POLLUTANTS, supra note 192, at 253.

[37]See, e.g., Ronald M. Davis, Current Trends in Cigarette Advertising and Marketing, 316 NEW ENG. J. MED. 725, 728-30 (1987) (finding that the marketing efforts of several cigarette companies have increasingly targeted African American and Hispanic communities).

[38]RIOS et al., supra note 169, at, 810-11 (citing U.S. Dep't of HEALTH & HUMAN SERVICES, HEALTH STATUS OF THE DISADVANTAGED: CHARTBOOK 1990 (1990).

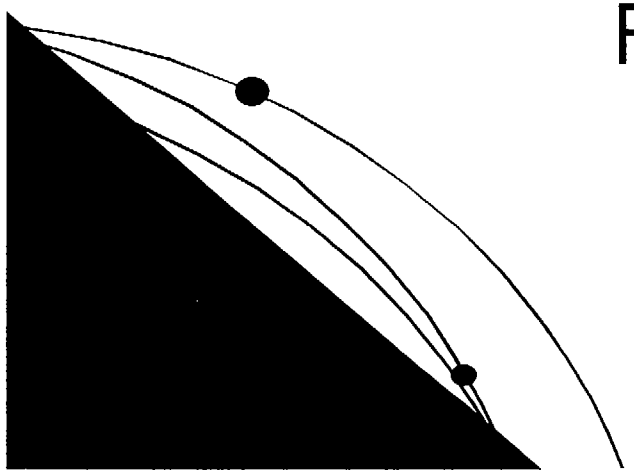
[39]Rios et al., supra note 169, at 810-11; CALABRESE, HIGH-RISK GROUPS, supra note 155, at 135-50.

Bias in Traditional Risk Assessment Methodology

Professor Raymond Tompkins

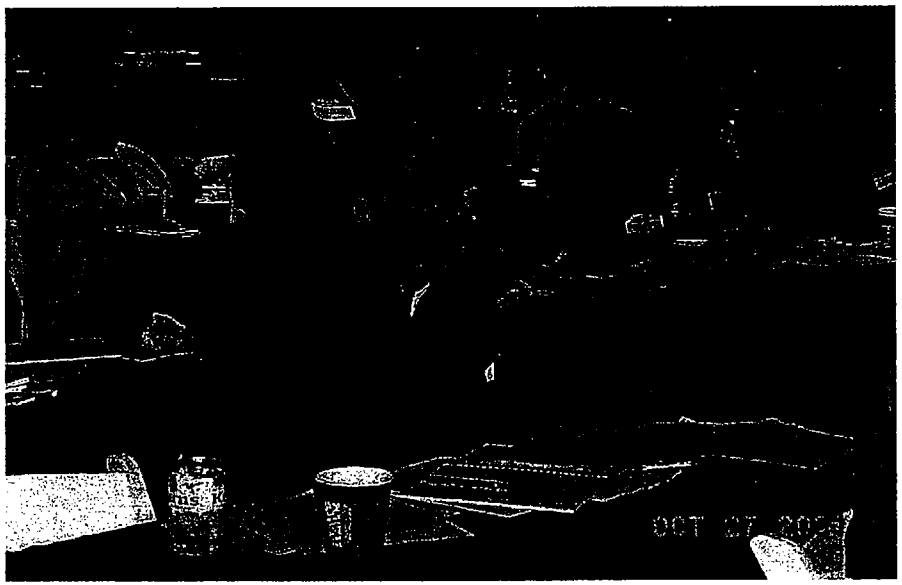
February 23, 2005

RAB Meeting



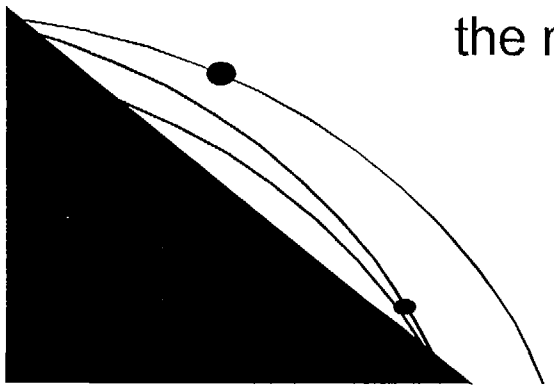
Failure of Inclusion

- Bay Area Wide RAB conference held in October 2001.
- Navy was asked to take risk factors into account in all risk assessments.



General Requests

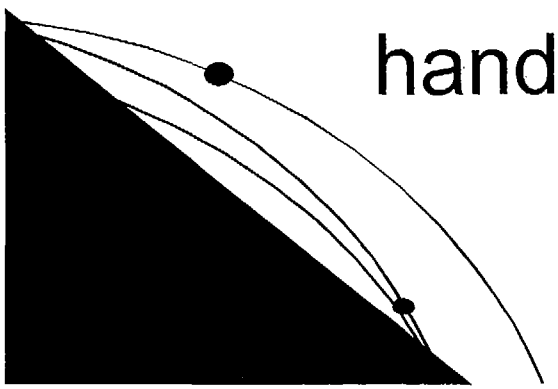
- I request that presentations be given from the Navy risk assessment staff to address increased susceptibility of people of color
  - No information has been seen by the subcommittees
- I request that no presentations be given to the full RAB board prior to being presented in the appropriate subcommittee
  - Subcommittee must have the appropriate time to review the material discussed prior to the meeting



Failures of Traditional Risk Assessment

Category A: Increased Exposure

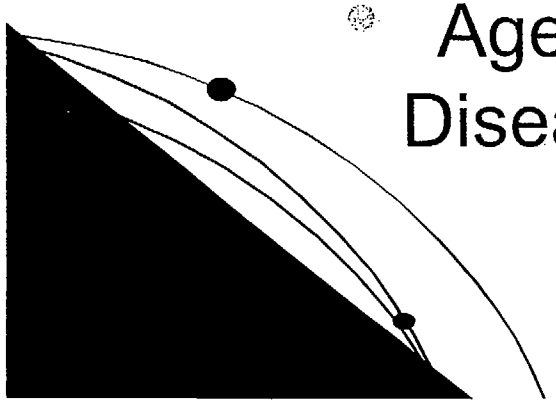
- Multiple Exposure Additive Effects
- Chemical Mixtures Synergistic Effect
- High Exposure to Single Substance
- The Mechanics of Risk Assessment
- Other Exposure Problems (See handout)



Exposure Assumptions

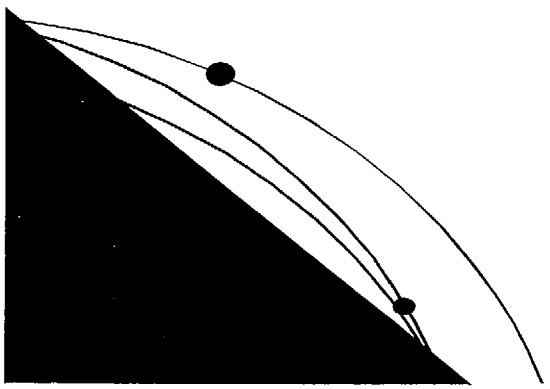
- Risk assessment involves a number of assumptions that dilute the significance of assessment results

- Example: August 2000 Parcel E Landfill Fire
  - Agency of Toxic Substances and Disease Registry (ATSDR)



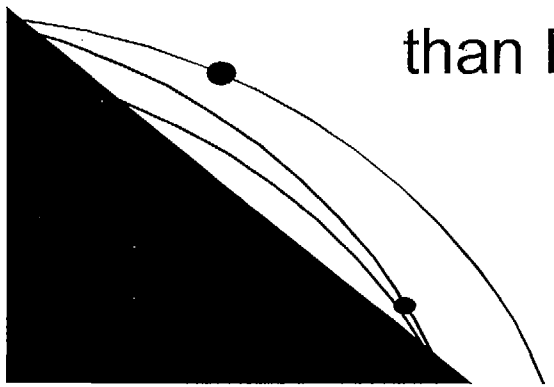
Multiple Exposures

- Risk assessment estimates the probability that a person exposed to a particular substance will experience a given adverse health effect.
- Single substance methodology fails to account for the multiple exposures
(William H. Hallenbeck and Kathleen M. Cunningham)



Multiple Exposures (Continued)

- Risk may vary due to health conditions
- Example: Bayview Hunters Point Asthma Rates
  - Hospital rates are 4 times higher than the State average
  - EPA endpoint for health risk factors that would cause cancer is 10-6 (one in a million)
  - BVHP asthma population may be at greater risk than EPA standard (could be higher)

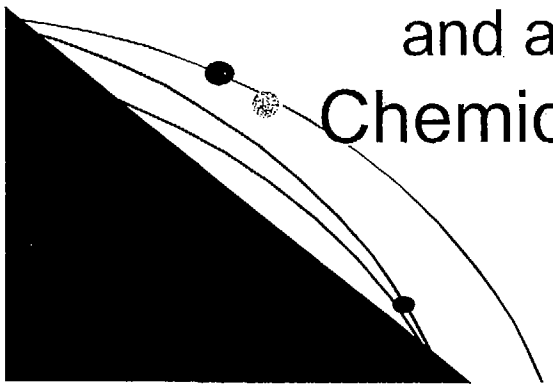


Chemical Mixture of Synergistic Effects

- Because risk assessment tends to focus on the health effects of single substances, they fail to detect those risks that may occur when numerous chemicals interact (Calabrese, Multiple Chemical Interactions [See handout])

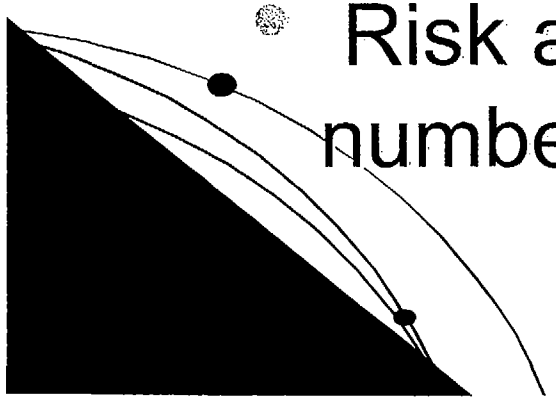
- Example: 1979 study of group
  - 11 cases of cancer due to smoking
  - 5 cases of cancer due to asbestos exposure
  - 53 cases of cancer when due to both smoking and asbestos exposure

- Chemical Mixture Experiment



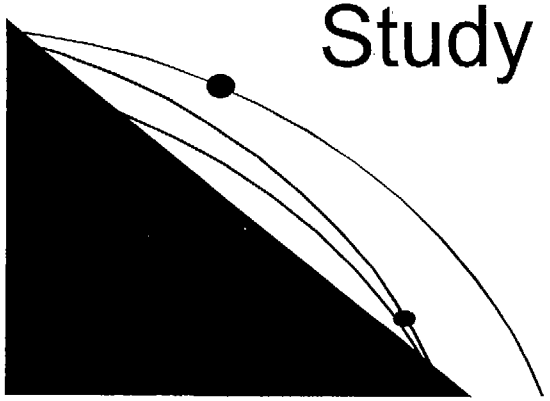
High Dose Exposure

- Traditional risk assessments fail to identify site-specific demographics
- Health and ethnicity is not accounted for
- Regulations are over and under inclusive
- Risk assessments are based on numbers that are too general



Mechanics of Risk Assessment

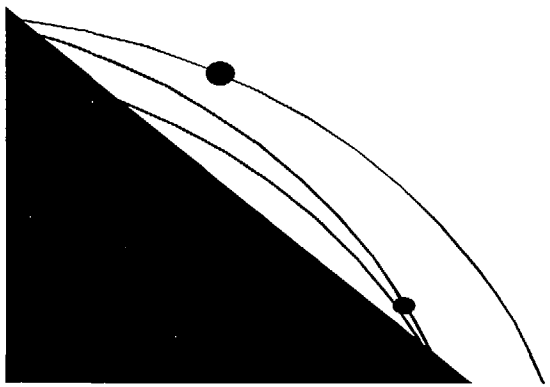
- Hazard Identification
- Only focuses on very few effects (based on historical research)
- Because of politics and emotion, risk assessments mainly focus on cancer
- Significance of Jack Needleman's Study on Lead and Children



Failures of Traditional Risk Assessment (Continued)

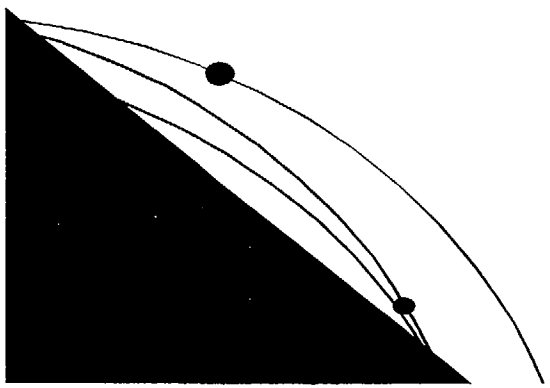
Category B: Reasons for increased susceptibility

1. Genetic Differences
2. Disease Frequencies
3. Social Inequalities
4. Lifestyle Factors



Distortion Resulting From Increased Susceptibility

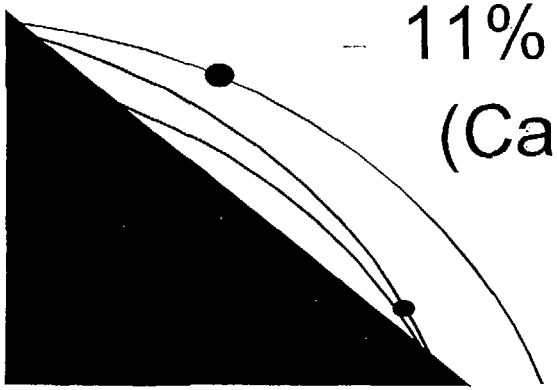
- The medical model for epidemiological studies used in regulatory risk assessments is the 35 year old healthy white male (EPA Equity Report)



Genetic Characteristics

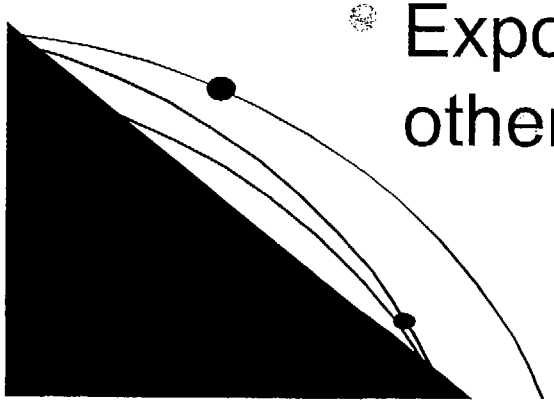
- A high percentage of certain subgroups have a genetic red blood cell deficiency related to the enzyme, glucose-6-phosphate dehydrogenase (G-6-PD)
- Population affected
  - 16% African American Males
  - 12-13% Filipinos
  - 11% Mediterranean Jews

    (Calabrese, Ecogenetics)



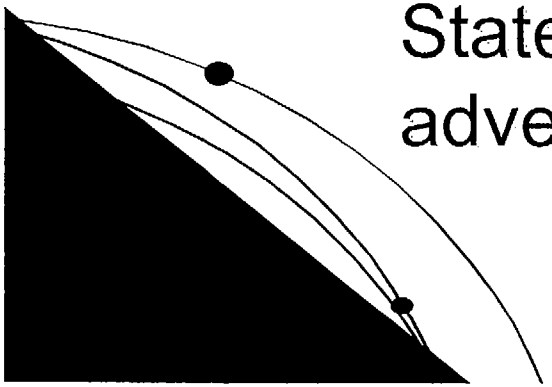
Genetic Characteristics (Continued)

- Example: Manganese
- In Navy literature provided by outside consultant showed that manganese attached to melanin (pigment) in skin
- Manganese impairs the immune system
  - Exposure may increase susceptibility to other diseases



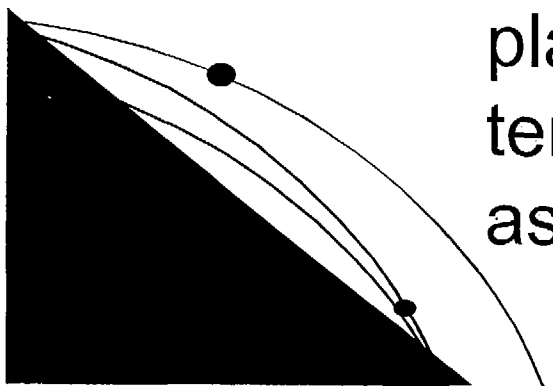
Increased Susceptibility to Chemicals

- Federal and State Regulators base their health standards to white males
  - Threshold for white males may be much higher to manganese than for people of color
  - Therefore safe levels of exposure to manganese according to Federal and State Regulations may be causing adverse health effects for people of color



What can we do about it?

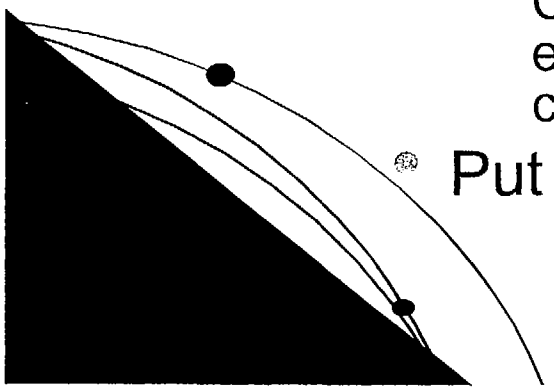
- Since there is a debate in the scientific community about risk assessment and what are safe levels of exposure for all people:
  - Therefore it is my recommendation that due to close proximity of residents to the shipyard that all construction be placed under a negative atmosphere tent (same procedures done for asbestos control)



What Can We Do About it? (Continued)

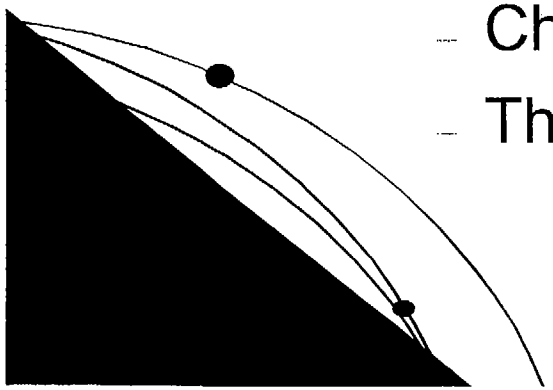
I Recommend That:

- Design and implement dust suppression system at Parcel B immediately
- All trucks leaving the shipyard must be covered whether there is contaminated soil or not to suppress dust at base immediately
  - This act will reduce hospitalization rates of asthmatics in the BVHP Community (4 times higher than the state average)
  - RAB should forward recommendation on dust suppression to San Francisco Health Department, County Supervisors and the Mayor for legislation and enforcement, as well as courtesy copies to all other city agencies and organizations
- Put safety of community first!



Conclusion

- The greatest failure of traditional risk assessment:
  - Fails to account for the majority of the population of the United States and the World
    - White women
    - People of color
    - Children
    - The elderly population



QUESTIONS?